HCD-XB66K

SERVICE MANUAL

E Model

Photo: XB66K

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol □□ are trademarks of Dolby Laboratories Licensing Corporation.

CD Section	Model Name Using Similar Mechanism	HCD290/G330/XB3
	CD Mechanism Type	CDM37LH-5BD29AL
	Base Unit Name	BU-5BD29AL
Tape deck Section	Optical Pick-up Name	KSS-213D/Q-NP
	Model Name Using Similar Mechanism	HCD-H881
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

Amplifier section

The following measured at AC 120/240 V, 50 Hz

DIN power output (Rated) 140 + 140 watts
(8 ohms at 1 kHz, DIN)

Continuous RMS power output (Reference)
170 + 170 watts
(8 ohms at 1 kHz, 10% THD)

Peak music power output (Reference)
3,000 watts

Inputs

PHONO IN (phono jacks): sensitivity 3 mV, impedance 47 kilohms

MIX MIC (phone jack): sensitivity 1 mV, impedance 10 kilohms

VIDEO/MD (AUDIO) IN (phono jacks):
sensitivity 250 mV, impedance 47 kilohms

Outputs

PHONES (stereo phone jack): accepts headphones of 8 ohms or more

VIDEO/MD (AUDIO) OUT (phono jacks):
voltage 250 mV, impedance 1 kilohms

SPEAKER: accepts impedance of 8 to 16 ohms.

CD player section

System: Compact disc and digital audio system

Laser: Semiconductor laser (λ = 780 nm)
Emission duration: continuous

Laser output: Max. 44.6 µW*
*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.

Wavelength: 780 - 790 nm

Frequency response: 2 Hz - 20 kHz (±0.5 dB)

Signal-to-noise ratio: More than 90 dB

Dynamic range: More than 90 dB

CD DIGITAL OUT
(square optical connector jack, rear panel)

Wave length: 600 nm

Output level: –18 dBm

– Continued on next page –

COMPACT DISC DECK RECEIVER

MICROFILM

SONY®

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	
	60 - 13,000 Hz (±3 dB), using a Sony TYPE I cassette
	60 - 14,000 Hz (±3 dB), using a Sony TYPE II cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 - 108.0 MHz (50 kHz step)
Antenna	FM wire antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range	
(2 band model)	531 - 1,602 kHz (with the tuning interval set at 9 kHz)
	530 - 1,710 kHz (with the tuning interval set at 10 kHz)
(3 band model)	
MW:	531 -1,602 kHz (with the tuning interval set at 9 kHz)
LW:	153 - 279 kHz (with the tuning interval set at 3 kHz)
Antenna	AM loop antenna, External antenna terminals
Intermediate frequency	450 kHz

General

Power requirements	
Mexican model:	120 V AC, 50/60 Hz
Australian and South African models:	
	220 - 240 V AC, 50/60 Hz
Other models:	110 -120 V or 220 -240 V AC, 50/60 Hz Adjustable with voltage selector
Power consumption	320 watts
Dimensions (w/h/d)	Approx. 355 × 425 × 435 mm (14 × $16^{3}/_{4}$ × $17^{1}/_{4}$ in) incl. projecting parts and controls
Mass	Approx. 14.5 kg (31 lb 16 oz.)
Supplied accessories	AM loop antenna (1) Remote RM-SD70S (1) Size AA (R6) batteries (2) FM wire antenna (1) Speaker cords (2)

Design and specifications are subject to change without notice.

TABLE OF CONTENTS

1. SERVICING NOTES 3

2. GENERAL 4

3. DISASSEMBLY 7

4. TEST MODE 15

5. MECHANICAL ADJUSTMENTS 17

6. ELECTRICAL ADJUSTMENTS
TAPE DECK Section 17
CD Section 20

7. DIAGRAMS
7-1. IC Pin Function Description 22
7-2. Block Diagram – CD Section – 27
7-3. Block Diagram – Tape Deck Section – 29
7-4. Block Diagram – Main Section (1/2) – 31
7-5. Block Diagram – Main Section (2/2) – 33
7-6. Block Diagram – Display/Key Control/ Power Supply Section – 35
7-7. Circuit Boards 37
7-8. Printed Wiring Board – CD Section (1/2) – 39
7-9. Schematic Diagram – CD Section (1/2) – 41
7-10. Printed Wiring Boards – CD Section (2/2) – 43
7-11. Schematic Diagram – CD Section (2/2) – 45
7-12. Printed Wiring Boards – Tape Deck Section – 47
7-13. Schematic Diagram – Tape Deck Section – 49
7-14. Printed Wiring Board – Main Section – 51
7-15. Schematic Diagram – Main Section (1/3) – 53
7-16. Schematic Diagram – Main Section (2/3) – 55
7-17. Schematic Diagram – Main Section (3/3) – 57
7-18. Printed Wiring Board – Power Amp Section – 59
7-19. Schematic Diagram – Power Amp Section – 61
7-20. Printed Wiring Board – Panel Section (1/3) – 63
7-21. Schematic Diagram – Panel Section (1/3) – 65
7-22. Printed Wiring Boards – Panel Section (2/3) – 67
7-23. Schematic Diagram – Panel Section (2/3) – 69
7-24. Printed Wiring Boards – Panel Section (3/3) – 71
7-25. Schematic Diagram – Panel Section (3/3) – 73
7-26. Printed Wiring Board – Power Supply Section – 75
7-27. Schematic Diagram – Power Supply Section – 76
7-28. Schematic Diagram – Key-Con Section – 77
7-29. Printed Wiriing Board – Key-Con Section – 77
7-30. Waveforms 79
7-31. IC Block Diagrams 80

8. EXPLODED VIEWS 83

9. ELECTRICAL PARTS LIST 92

SECTION 1
SERVICING NOTES

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

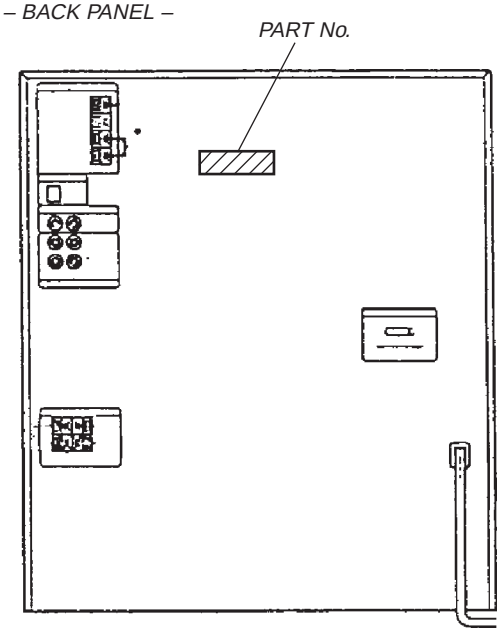
Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

MODEL IDENTIFICATION

– BACK PANEL –



MODEL	PART No.
Singapore, Malaysia model	4-996-413-1☐
E, Indonesian model	4-996-413-6☐
Saudi Arabia model	4-996-413-7☐
Thai model	4-996-413-9☐

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveforms is output three times.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

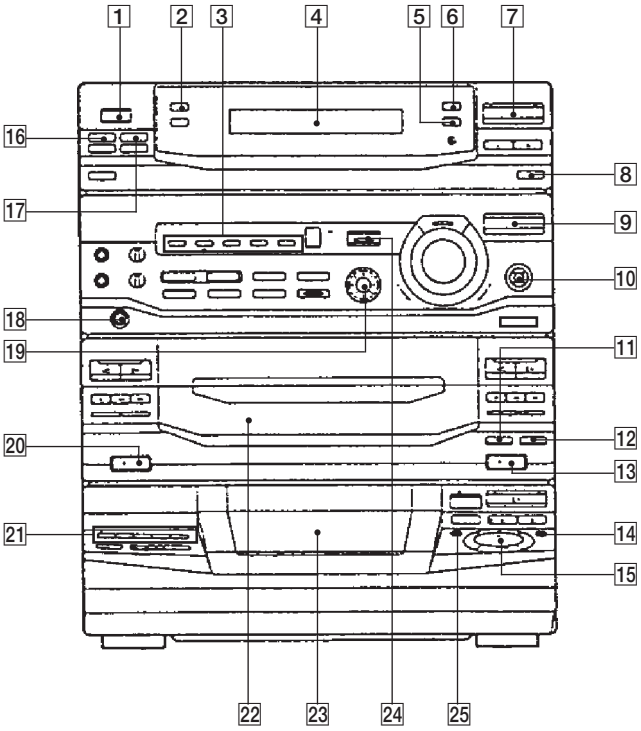
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 2
GENERAL

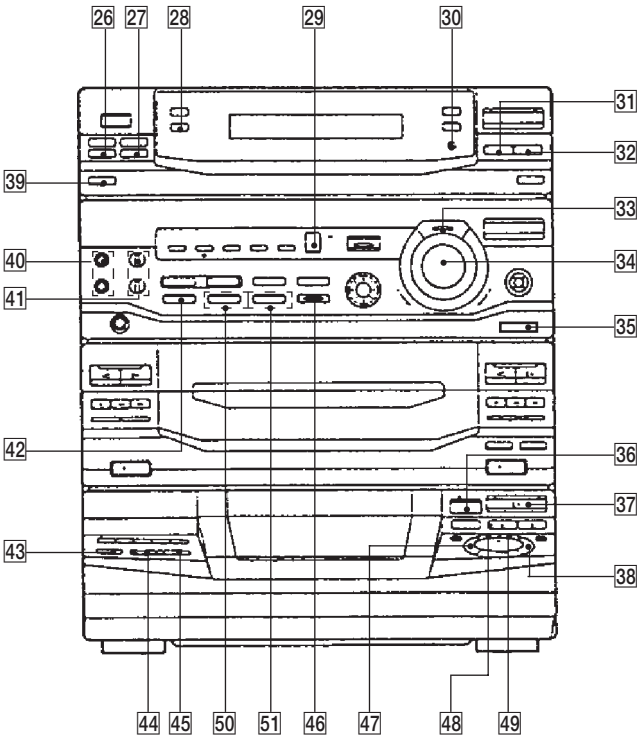
This section is extracted from instruction manual.

LOCATION OF CONTROLS

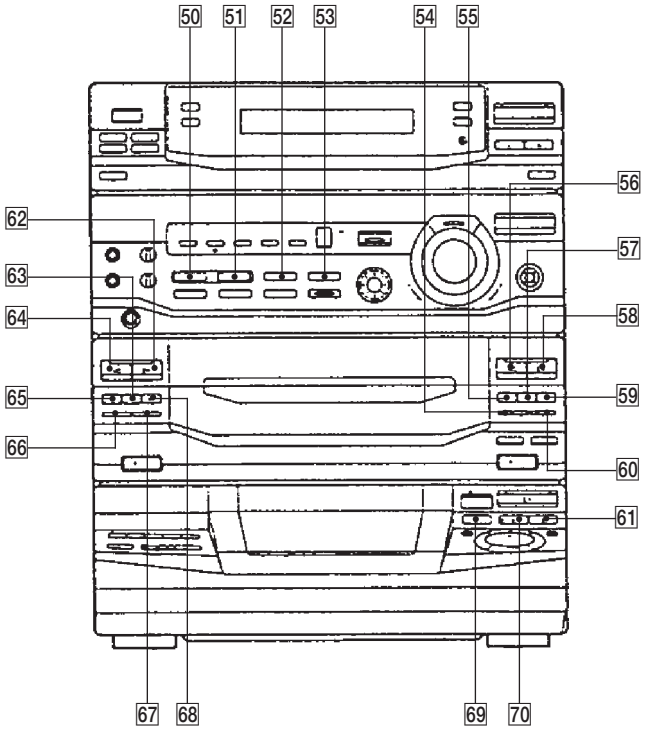
– Front Panel –



1 I /⏻ (Power) button
2 DISPLAY/DEMO button
3 FILE (1-5) indicator
4 Fluorescent indicator tube
5 TUNER MEMORY button
6 TUNING MODE button
7 TUNER/BAND button and indicator
8 STEREO/MONO button
9 FUNCTION button
10 SUPER WOOFER button and indicator
11 H SPEED DUB button
12 CD SYNC button
13 ⏏ EJECT button (DECK B)
14 ▶▶ button (CD)
15 ⏮⏭ AMS ⏭⏮ jog dial
16 ⏲/CLOCK SET button
17 REC button
18 PHONES jack
19 GEQ (▲/►/▼/◄) switch
20 ⏏ EJECT button (DECK A)
21 DIRECT PLAY (DISC 1 to DISC 5) button
22 Cassette holder
23 CD lid
24 EFFECT button and indicator
25 ◀◀ button (CD)

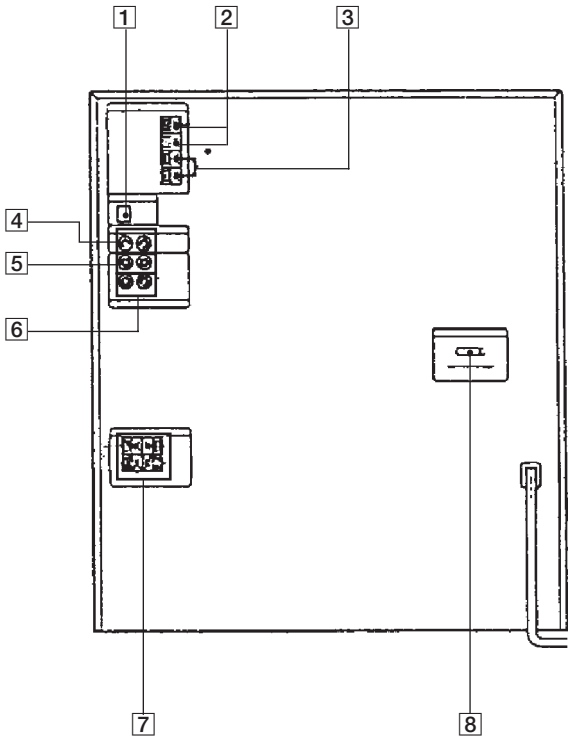


26 DAILY 1 button
27 DAILY 2 button
28 SPECTRUM ANALYZER button
29 MUSIC/OTHERS/P FILE indicator
30 ENTER/NEXT button and indicator
31 TUNING (–) button
32 TUNING (+) button
33 GROOVE button and indicator
34 VOLUME control knob
35 SUPER W MODE button
36 ⏏ OPEN button (CD)
37 ▷ button and indicator (CD)
38 REPEAT button
39 SLEEP button
40 MIC1/MIC2 jack
41 MIC/ECHO LEVEL control knob
42 KARAOKE PON/MPX button
43 NON-STOP button and indicator
44 LOOP button
45 FLASH button
46 ENTER button and indicator
47 EDIT button
48 1/ALL DISCS button
49 PLAY MODE button
50 KEY CONTROL (♭)
51 KEY CONTROL (♯)



50 WAVE button
51 SURROUND button
52 P FILE MEMORY button
53 GEQ CONTROL button
54 ❚❚ button and indicator (DECK B)
55 ■ button (DECK B)
56 ◁ button and indicator (DECK B)
57 ◀◀ button (DECK B)
58 ▷ button and indicator (DECK B)
59 ▶▶ button (DECK B)
60 ● REC button and indicator (DECK B)
61 ■ button (CD)
62 ▷ button and indicator (DECK A)
63 ◀◀ button (DECK A)
64 ◁ button and indicator (DECK A)
65 ■ button (DECK A)
66 DIRECTION button
67 DOLBY NR button
68 ▶▶ button (DECK A)
69 DISC SKIP button
70 ❚❚ button and indicator (CD)

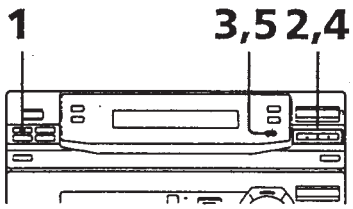
– Rear Panel –



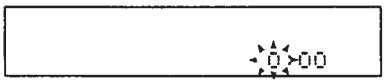
1 CD DIGITAL OUT OPTICAL
2 FM ANTENNA terminal
3 AM ANTENNA terminal
4 PHONO IN jack
5 VIDEO/MD (AUDIO) IN jack
6 VIDEO/MD (AUDIO) OUT jack
7 SPEAKER output terminal
8 VOLTAGE SELECTOR switch

Step 2: Setting the time

You must set the time before using the timer functions. The clock is on a 12 hour system.



1 . Press ⏲/CLOCK SET.
The hour indication flashes.



2 Press TUNING +/– to set the hour.

3 Press ENTER/NEXT.
The minutes indication flashes.

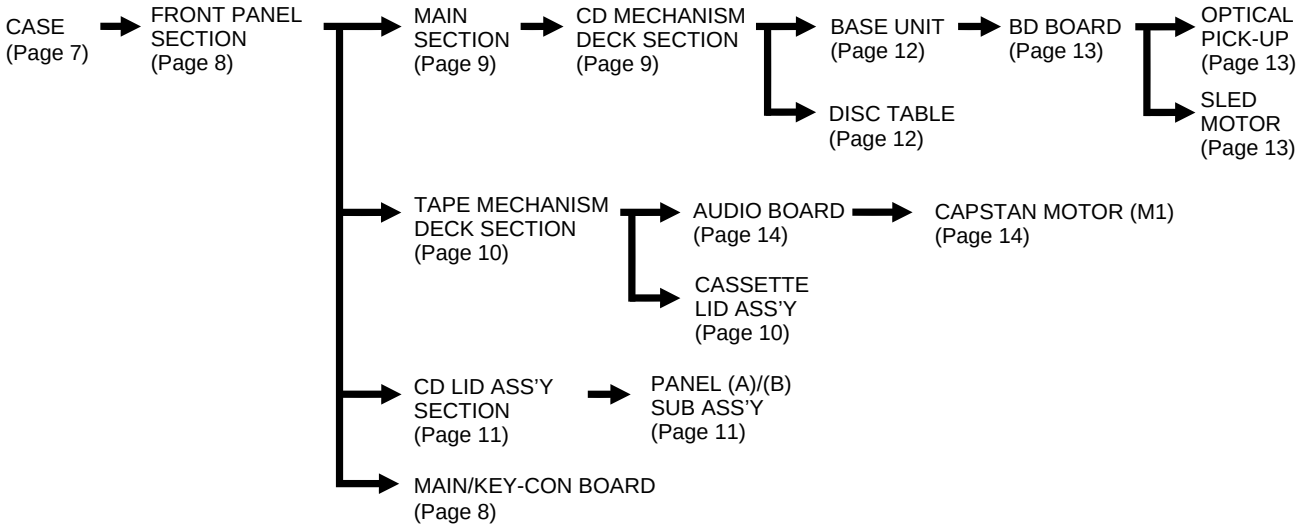
4 Press TUNING +/– to set the minutes.

5 Press ENTER/NEXT.
The clock starts.

Tip
If you make a mistake, start over from step 1.

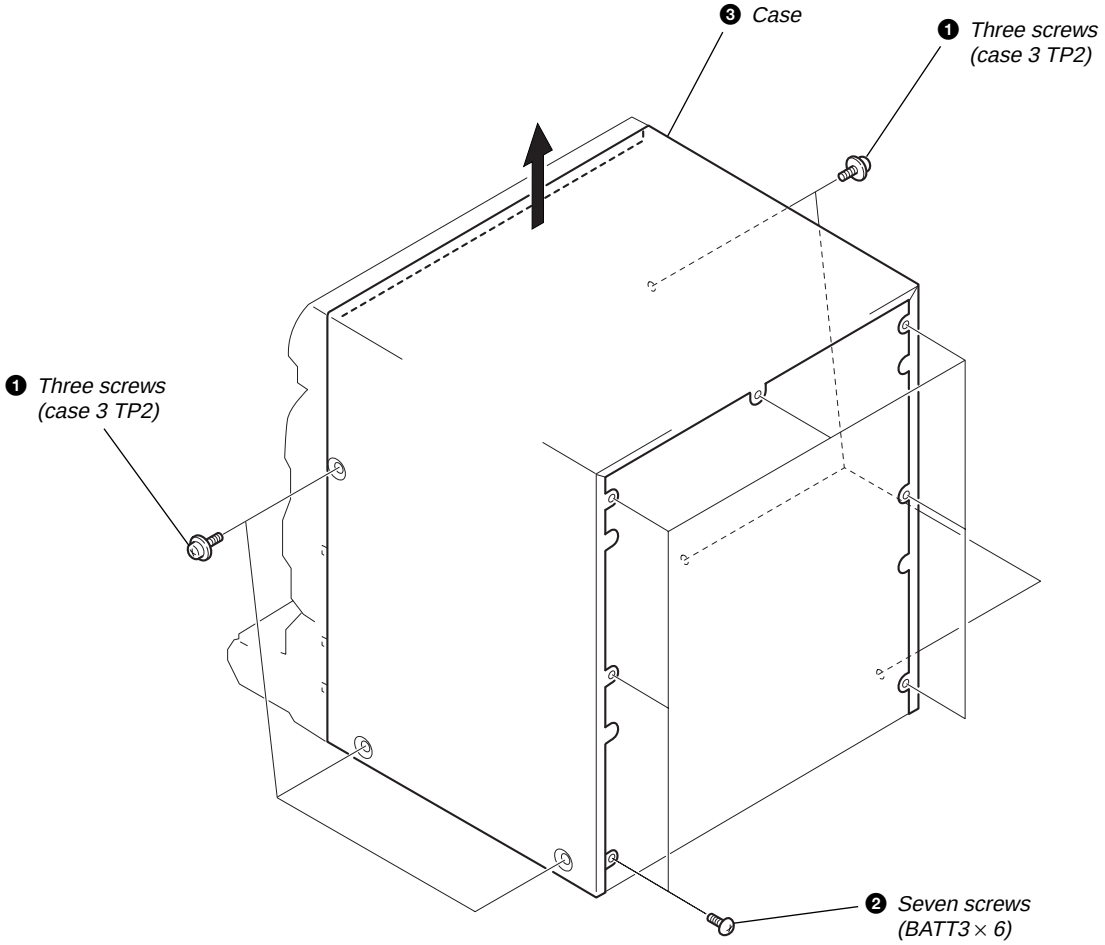
SECTION 3
DISASSEMBLY

• This set can be disassembled in the order shown below.

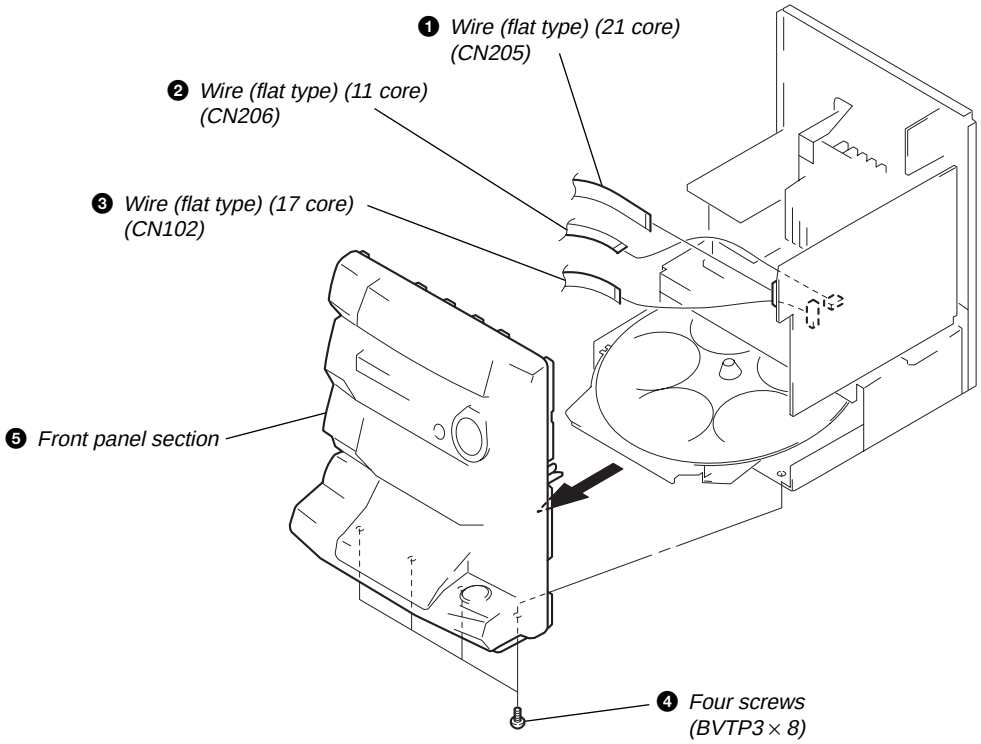


Note: Follow the disassembly procedure in the numerical order given.

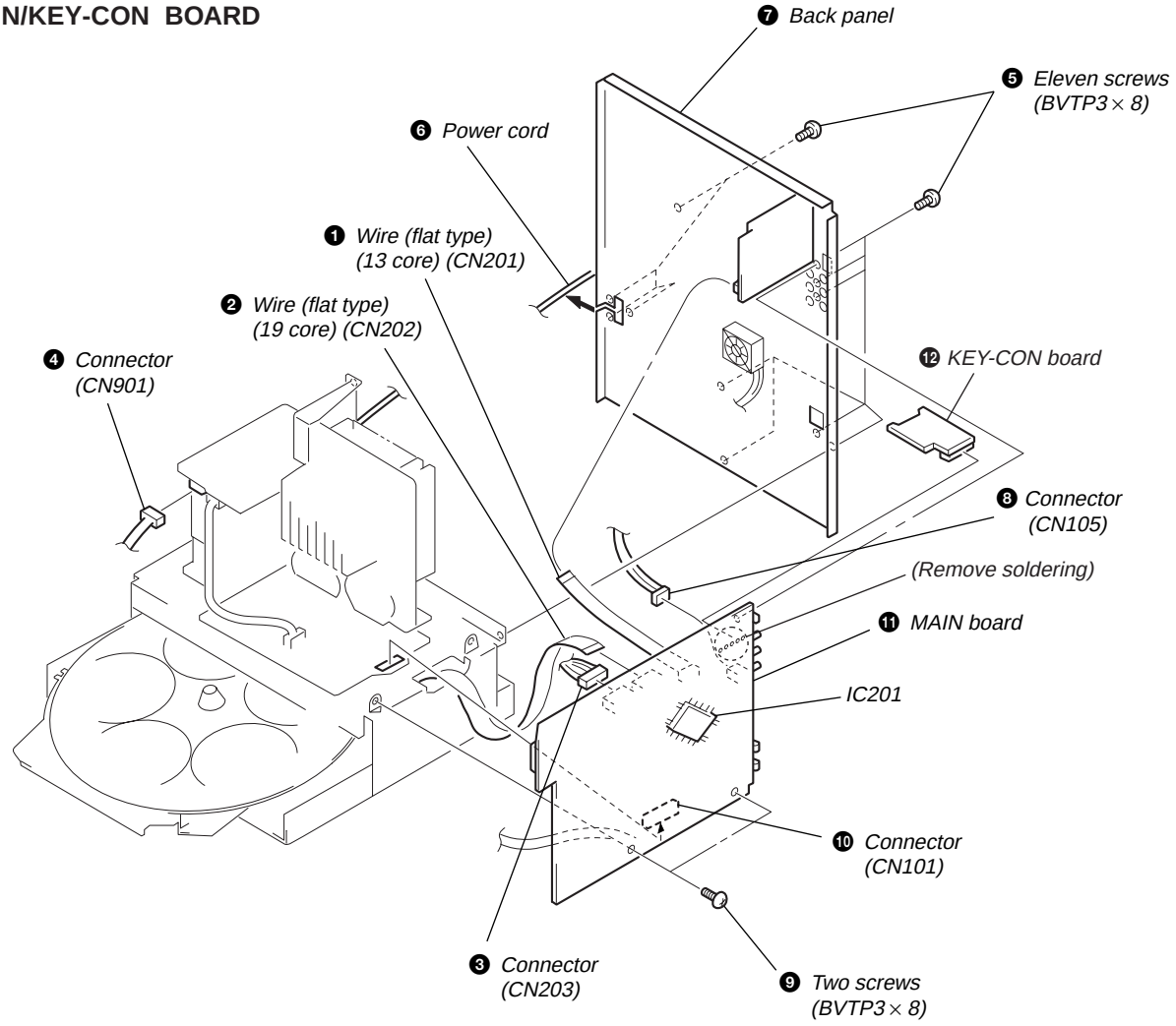
3-1. CASE



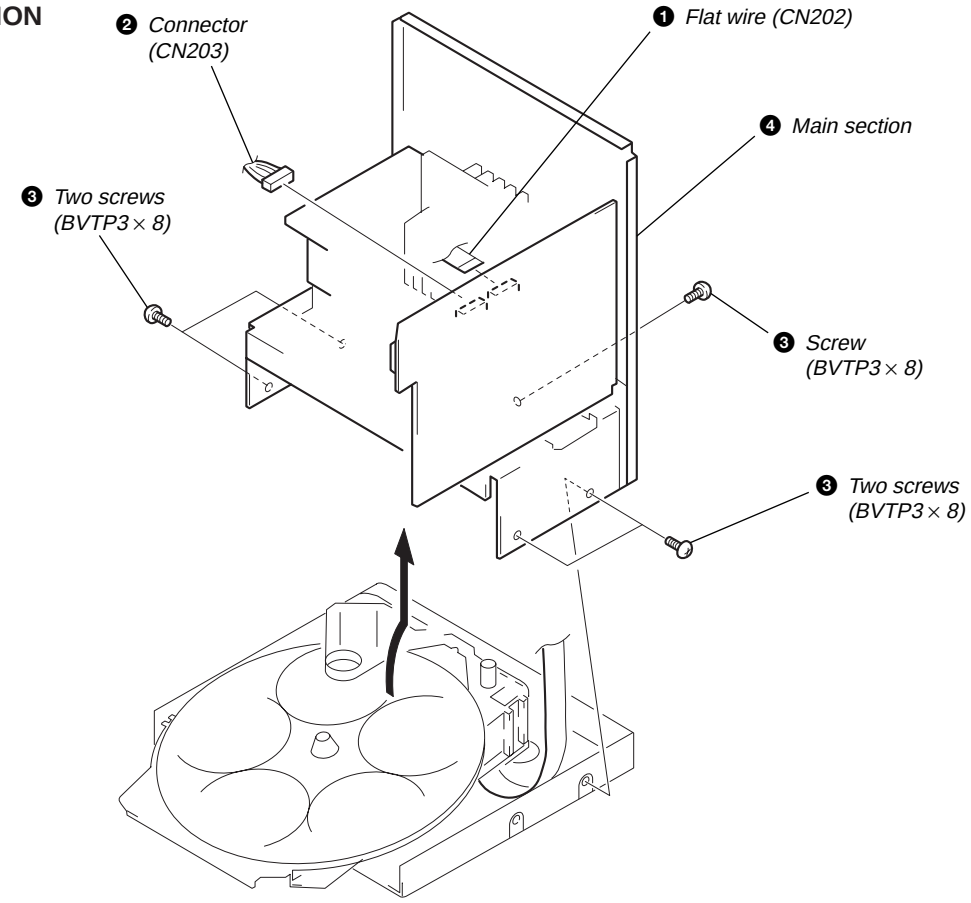
3-2. FRONT PANEL SECTION


❶ Wire (flat type) (21 core) (CN205)
❷ Wire (flat type) (11 core) (CN206)
❸ Wire (flat type) (17 core) (CN102)
❺ Front panel section
❹ Four screws (BVTP3 × 8)

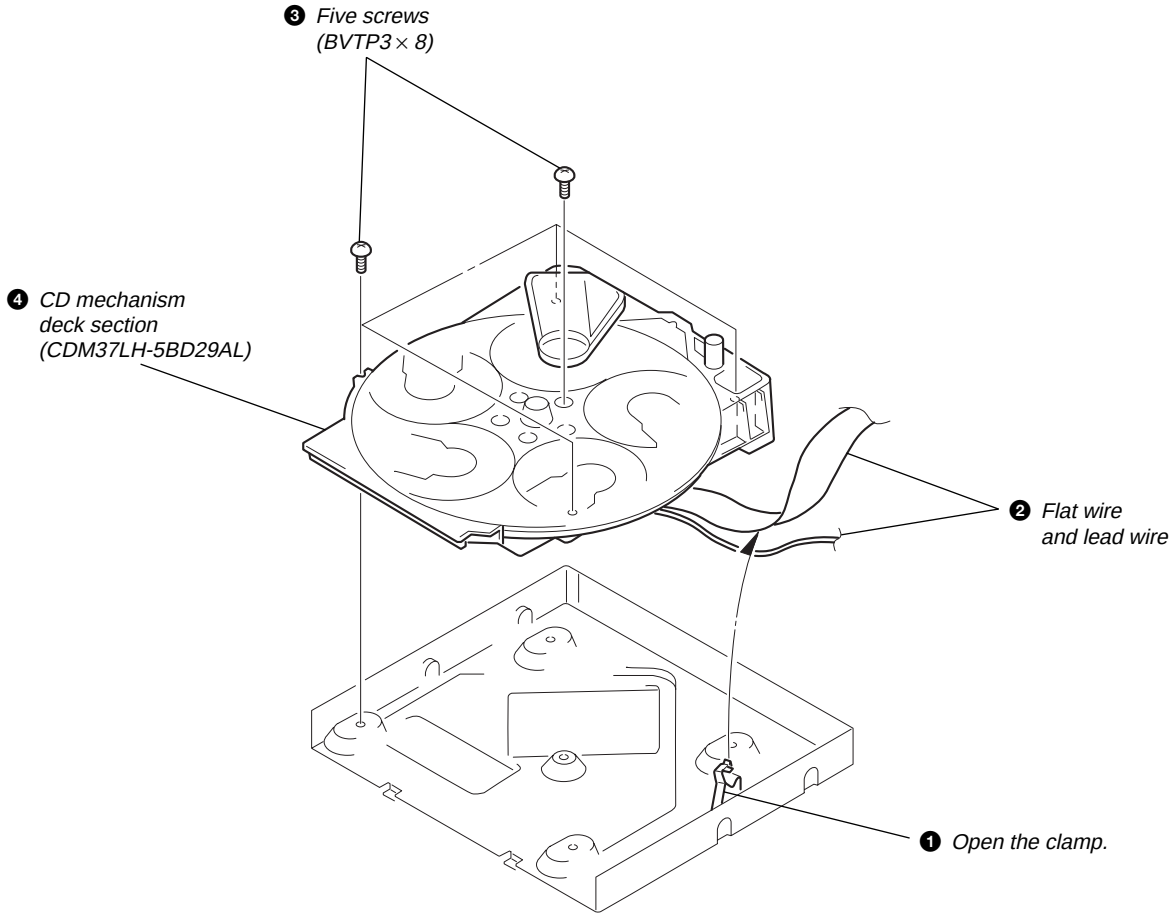
3-3. MAIN/KEY-CON BOARD



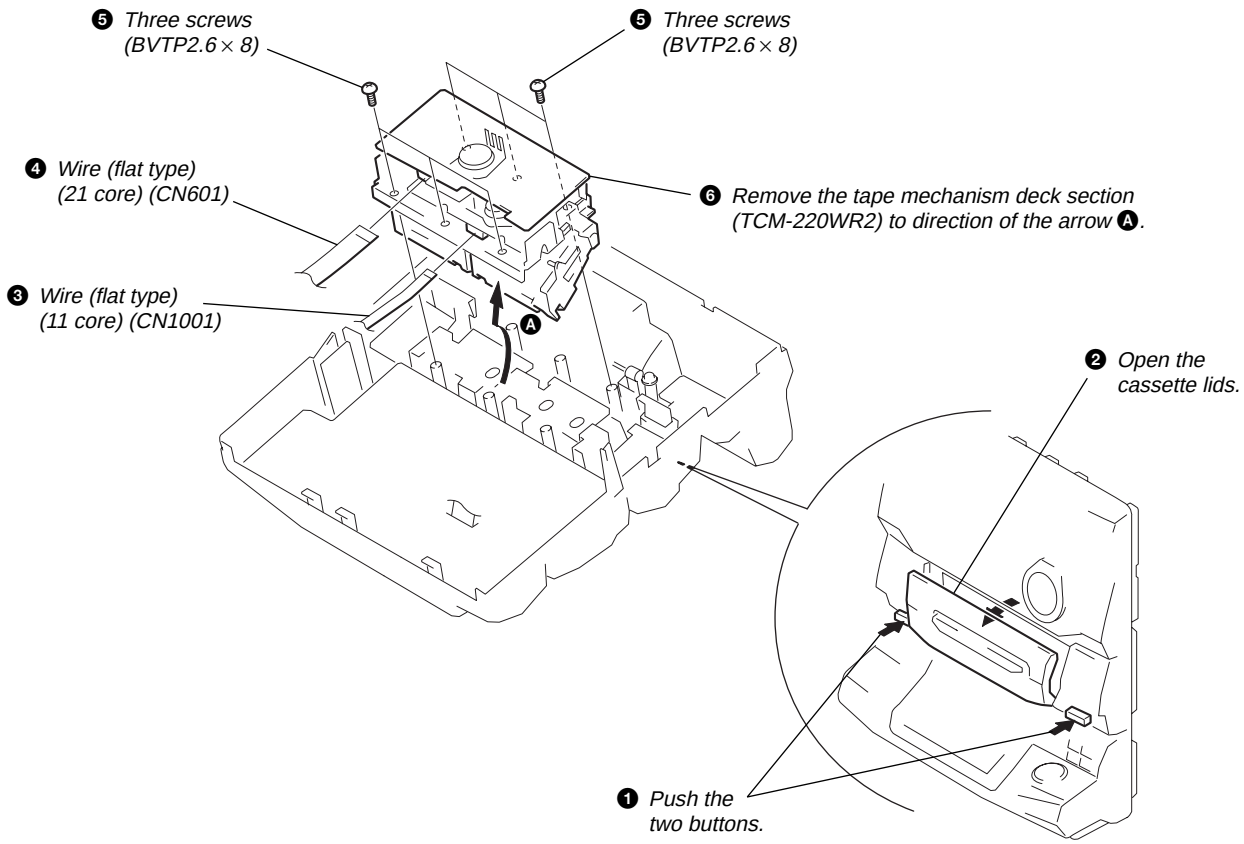
3-4. MAIN SECTION



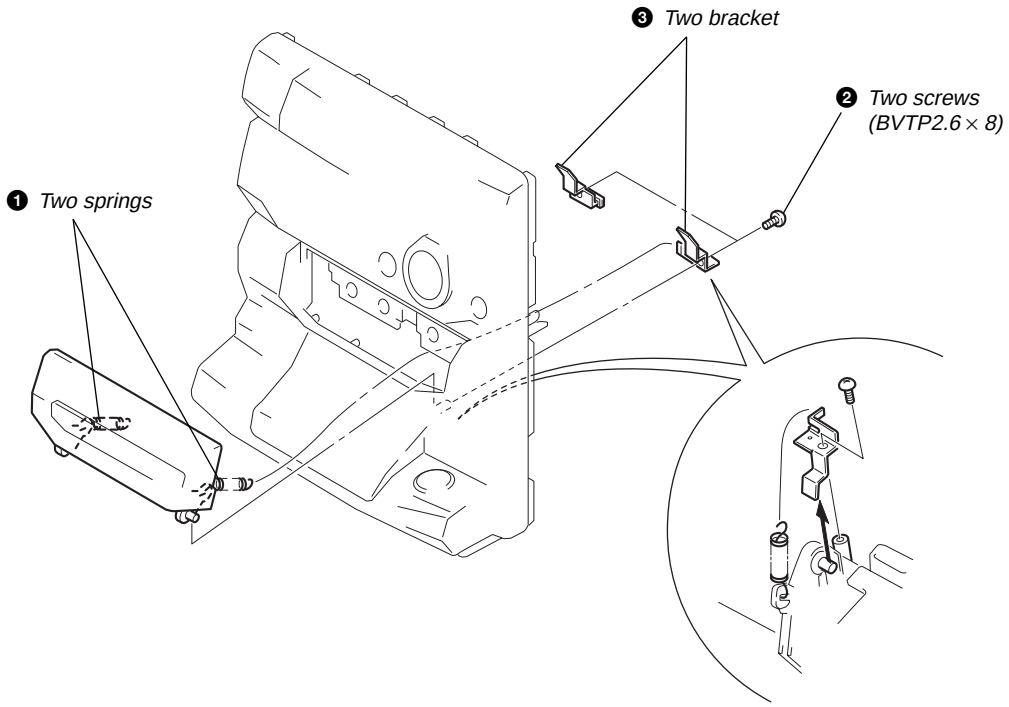
3-5. CD MECHANISM DECK SECTION (CDM37LH-5BD29AL)



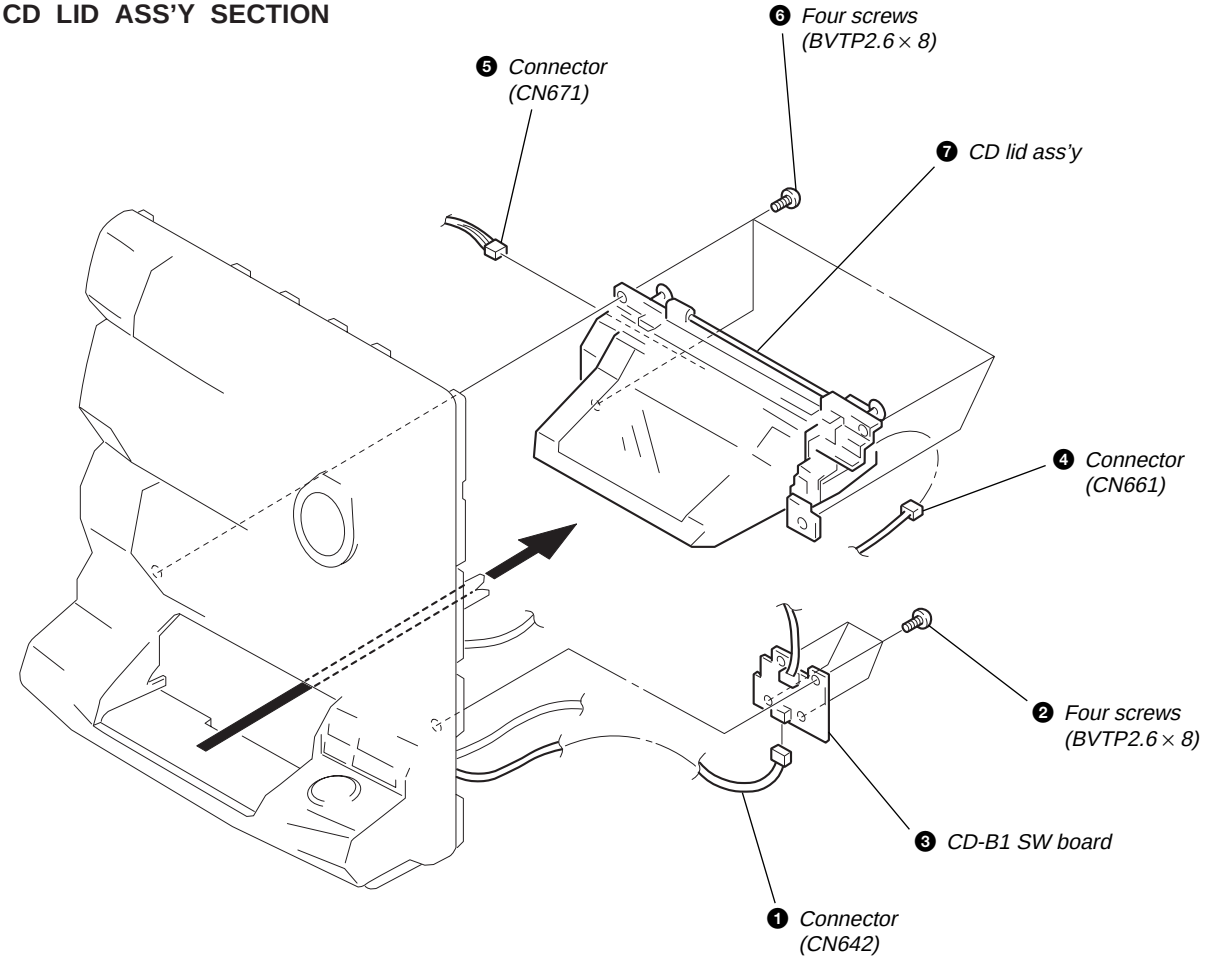
3-6. TAPE MECHANISM DECK SECTION (TCM-220WR2)


❺ Three screws (BVTP2.6 × 8)
❺ Three screws (BVTP2.6 × 8)
❹ Wire (flat type) (21 core) (CN601)
❻ Remove the tape mechanism deck section (TCM-220WR2) to direction of the arrow Ⓐ.
❸ Wire (flat type) (11 core) (CN1001)
Ⓐ
❷ Open the cassette lids.
❶ Push the two buttons.

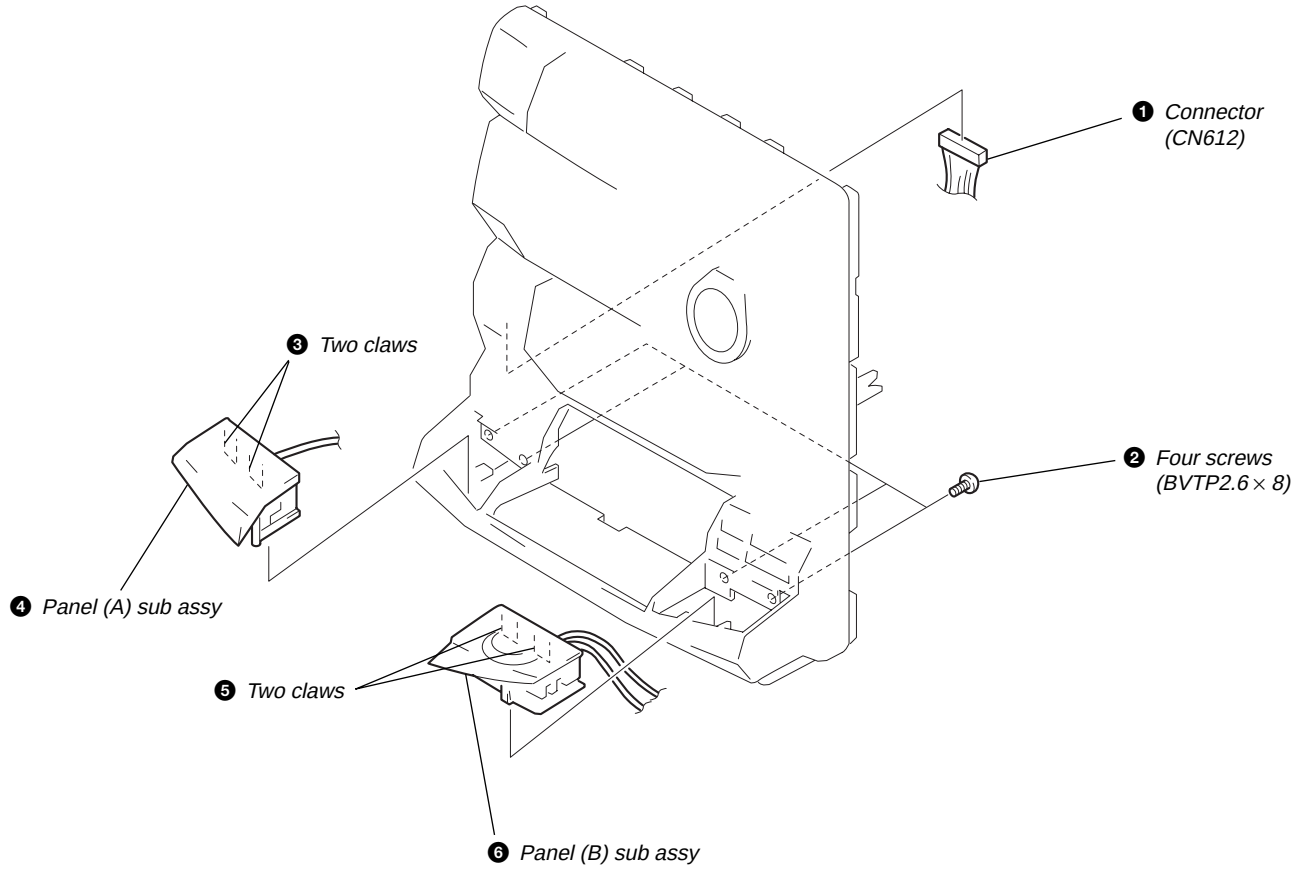
3-7. CASSETTE LID ASS'Y



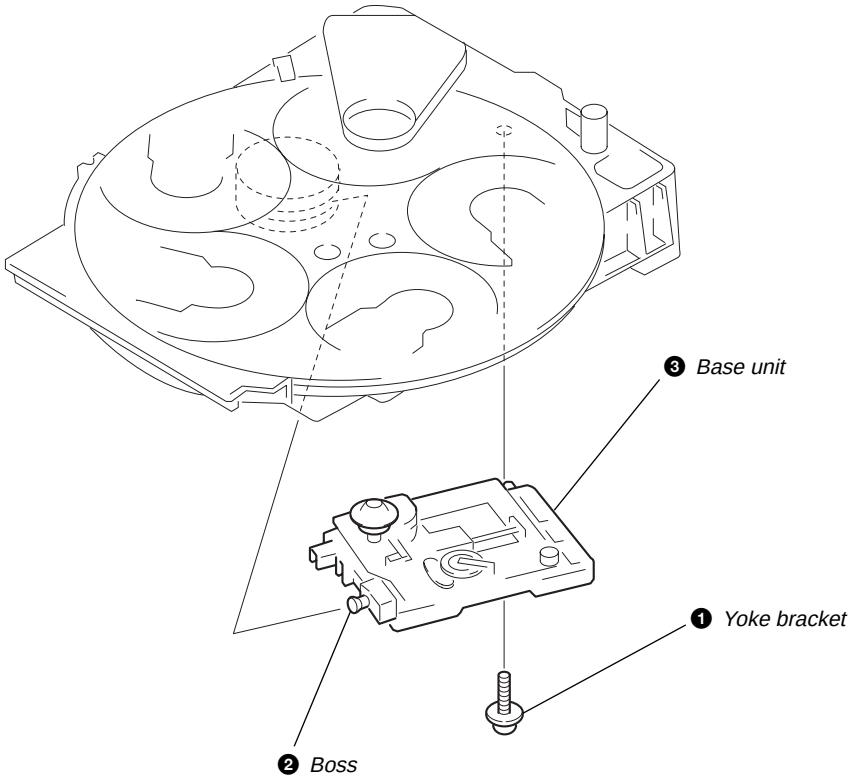
3-8. CD LID ASS'Y SECTION


❻ Four screws (BVTP2.6 × 8)
❺ Connector (CN671)
❼ CD lid ass'y
❹ Connector (CN661)
❷ Four screws (BVTP2.6 × 8)
❸ CD-B1 SW board
❶ Connector (CN642)

3-9. PANEL (A) / (B) SUB ASS'Y

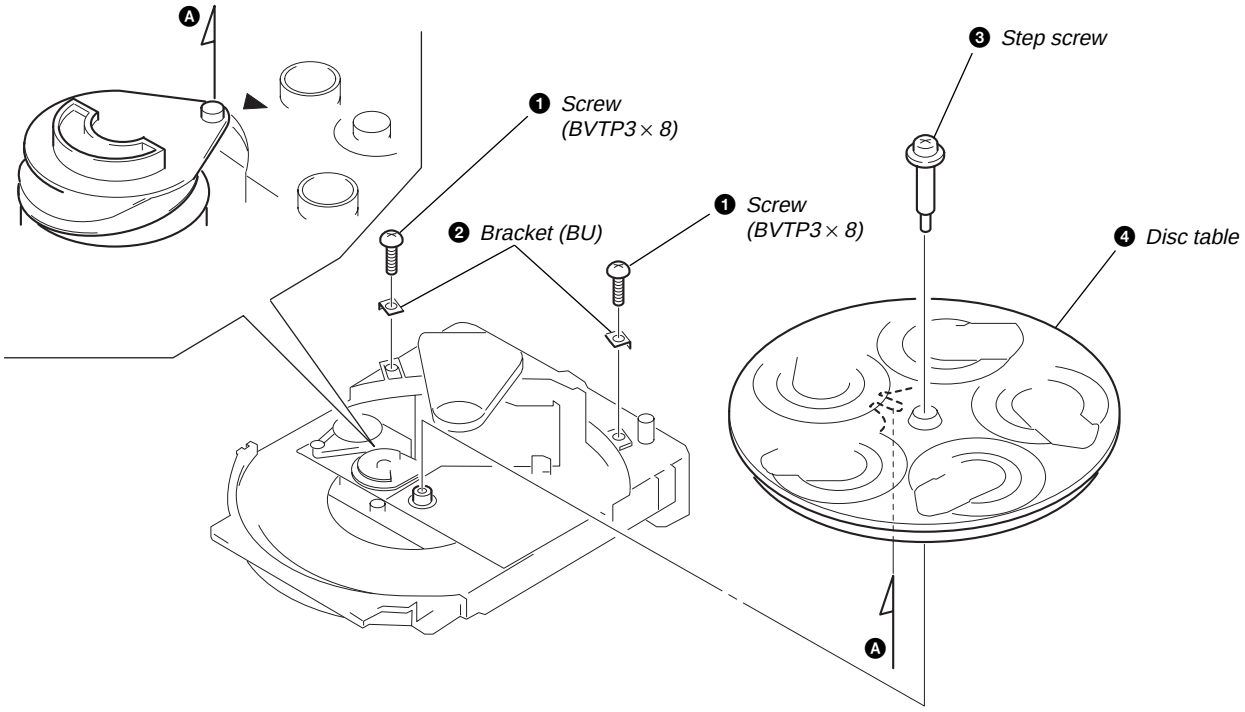


3-10. BASE UNIT

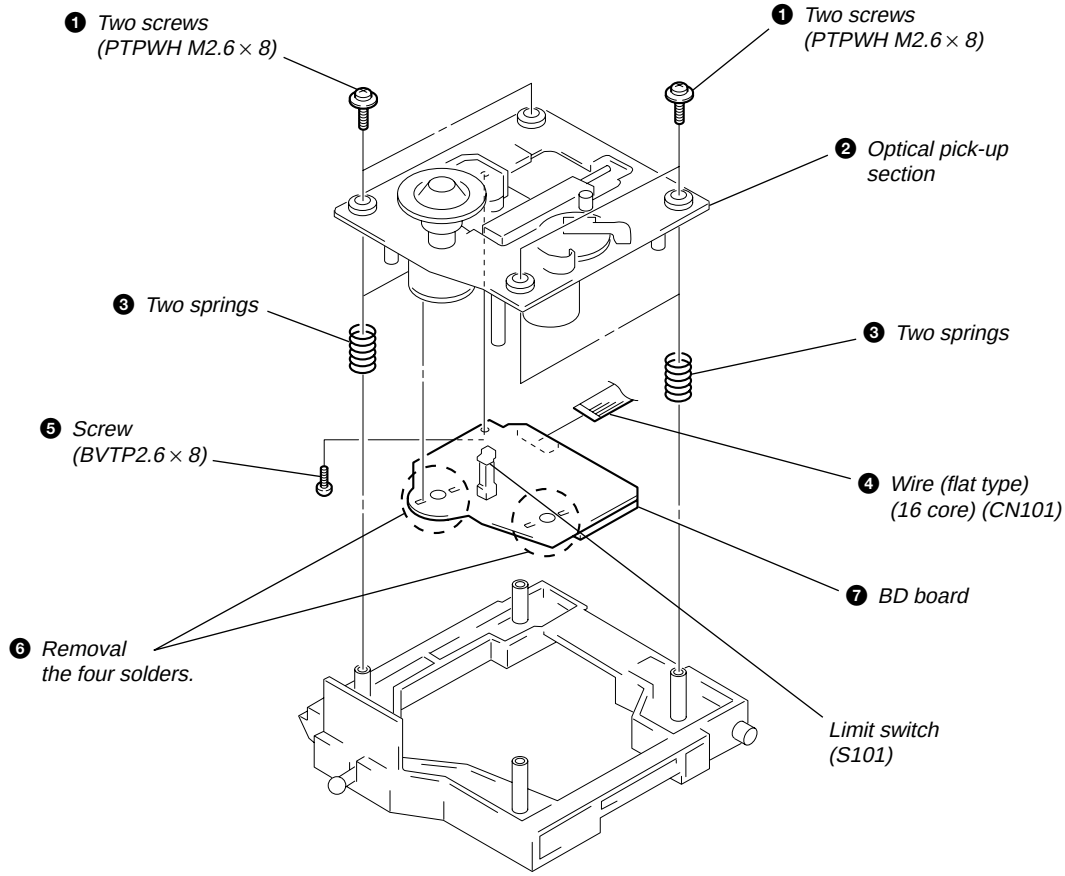


3-11. DISC TABLE

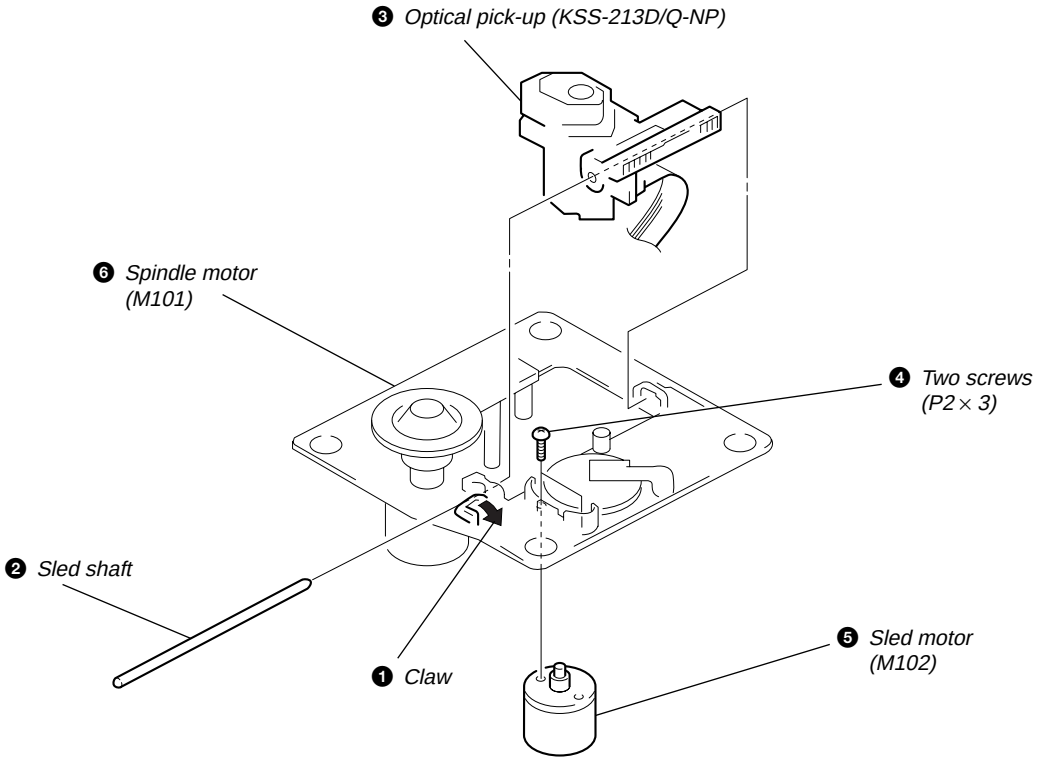
Note:
When the disc table is installed, adjust the positions of roller cam and mark ► as shown in the figure, then set to the groove of disc table.



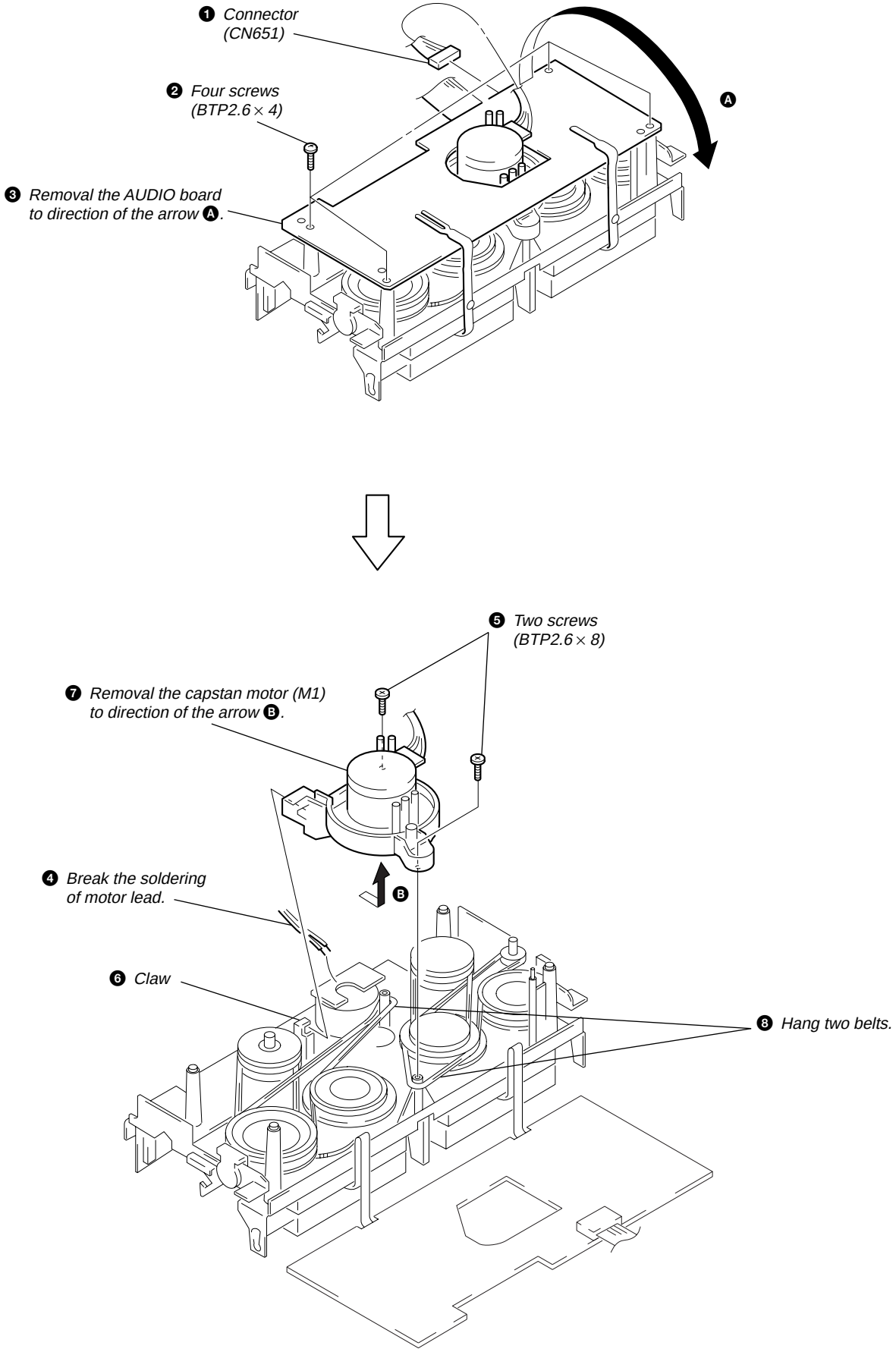
3-12. BD BOARD


❶ Two screws (PTPWH M2.6 × 8)
❶ Two screws (PTPWH M2.6 × 8)
❷ Optical pick-up section
❸ Two springs
❸ Two springs
❺ Screw (BVTP2.6 × 8)
❹ Wire (flat type) (16 core) (CN101)
❼ BD board
❻ Removal the four solders.
Limit switch (S101)

3-13. OPTICAL PICK-UP (KSS-213D / Q-NP) , SLED MOTOR (M102) , SPINDLE MOTOR (M101)



3-14. AUDIO BOARD, CAPSTAN MOTOR (M1)


❶ Connector (CN651)
❷ Four screws (BTP2.6 × 4)
❸ Removal the AUDIO board to direction of the arrow Ⓐ.
Ⓐ
❺ Two screws (BTP2.6 × 8)
❼ Removal the capstan motor (M1) to direction of the arrow Ⓑ.
Ⓑ
❹ Break the soldering of motor lead.
❻ Claw
❽ Hang two belts.

SECTION 4
TEST MODE

[MC Cold Reset]

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons [SPECTRUM ANALYZER] , [ENTER] , and [DISC 1] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[CD Delivery Mode]

• This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press [I /⏻] button to turn the set ON.
2. Press [PLAY MODE] button and [I /⏻] button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

[MC Hot Reset]

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons [SPECTRUM ANALYZER] , [ENTER], and [DISC 2] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

[Sled Servo Mode]

• This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pickup.

Procedure:

1. Select the function "CD".
2. Press three buttons [SPECTRUM ANALYZER] , [ENTER], and [FUNCTION] simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, press [▶▶] button in CD section to move the pickup to outside track, or [◀◀] button to inside track.
5. To exit from this mode, perform as follows:
   1) Move the pickup to the most inside track.
   2) Press three buttons in the same manner as step 2.

Note:

• Always move the pickup to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
• Do not run the sled motor excessively, otherwise the gear can be chipped.

[Change-over of AM Tuner Step between 9kHz and 10kHz]

• A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press [I /⏻] button to turn the set ON.
2. Select the function "TUNER", and press [TUNER/BAND] button to select the BAND "AM".
3. Press [I /⏻] button to turn the set OFF.
4. Press [ENTER] and [I /⏻] buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

[LED and Fluorescent Indicator Tube All Lit, Key Check Mode]

Procedure:

1. Press three buttons [SPECTRUM ANALYZER], [ENTER] , and [DISC 3] simultaneously.
2. LEDs and fluorescent indicator tube are all turned on. Press [DISC 2] button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 1 J0 V0". Each time a button is pressed, "K"value increases. However, once a button is pressed, it is no longer taken into account.
   "J" Value increases like 1, 2, 3 ... if rotating [⏮ AMS ⏭] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
   "V" Value increases like 1, 2, 3 ... if rotating [VOLUME] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "–" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

[Aging Mode]

This mode can be used for operation check of CD section and tape deck section.

- If an error occurred:
  The aging operation stops.
- If no error occurs:
  The aging operation continues repeatedly.

1. Aging Mode in CD Section

1-1. Operating Method of Aging Mode

1. Set discs in DISC 1 and DISC 3 trays.
2. Select the function "CD".
3. Press three buttons [SPECTRUM ANALYZER], [ENTER], and [KARAOKE PON/MPX] simultaneously.
4. The aging mode is activated, if a roulette mark on the fluorescent indicator tube is blinking.
5. In the aging mode, the aging is executed in a sequence given in "1-2. Operation during Aging Mode".
   The aging continues unless an alarm occurred.
6. To exit from the aging mode, press [I /⏻] button to turn the set OFF.

- If a button other than buttons In CD section is pressed during aging, the aging in the CD section is finished.
- To execute aging to the tape deck section successively, press [▷] button in the deck A.
  "AGING" is displayed on the fluorescent indicator tube. (For the aging in tape deck, see "2. Aging Mode in Tape Deck Section".

1-2. Operation during aging Mode

In the aging mode, the program is executed in the following sequence.

1. The disc tray turns to select a disc. (For a disc selection sequence, see Section 1-3.)
2. TOC of disc is read.
3. The pickup accesses to the last track.
4. Steps 1 through 3 are repeated.

1-3. Disc Selection Sequence

- During the aging mode, discs are selected in the following sequence:

  Disc 1 → Disc 3
  ↑ ↓
  Disc 3 ← Disc 1

2. Aging Mode in Tape Deck Section

2-1. Operating Method of Aging Mode

1. Load a commercially available 10-minute tape into the decks A and B respectively.
   (If a 10-minute tape is not available, another tape may be used but a cycle time will be longer.)
2. Select the function "TAPE".
3. Rewind tapes in advance by pressing [◀◀] button respectively on decks A and B.
4. Press three buttons [SPECTRUM ANALYZER], [ENTER], and [KARAOKE PON/MPX] simultaneously.
5. Press [▷] button on deck A. (This button triggers the aging mode.)
6. The aging mode is activated if "AGING A" is displayed on the fluorescent indicator tube.
7. In the aging mode, the aging is executed in a sequence given in "2-2. Operation during Aging Mode".
   The aging continues unless an alarm occurred.
8. To exit from the aging mode, press [I /⏻] button to turn the set OFF.

2-2. Operation during Aging Mode

In the aging mode, the program is executed in the following sequence.

1. A tape on FWD side is played for one minute.
2. PAUSE STOP is made.
3. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed.)
4. FF is executed up to the end of tape.
5. A tape is reversed, and the tape on REV side is played for one minute.
6. PAUSE STOP is made.
7. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed.)
8. FF is executed up to the end of tape.
9. Steps 1 through 8 are executed for the other deck.
10. Steps 1 through 9 are repeated unless an alarm occurred.

2-3. Deck Selection Sequence

- During the aging mode, decks are selected in the following sequence:

  Deck A (FWD) → Deck A (REV)
  ↑ ↓
  Deck B (REV) ← Deck B (FWD)

SECTION 5
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback heads — pinch rollers
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement
• Tape Tension Measurement

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	36 to 61g•cm (0.50 – 0.84 oz•inch)
Forward Back Tension	CQ-102C	2 to 6g•cm (0.026 – 0.082 oz•inch)
Reverse	CQ-102RC	36 to 61g•cm (0.50 – 0.84 oz•inch)
Reverse Back Tension	CQ-102RC	2 to 6g•cm (0.026 – 0.082 oz•inch)
FF, REW	CQ-201B	61 to 143g•cm (0.85 – 1.98 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 100 g (3.52 oz)
Reverse	CQ-403R	more than 100 g (3.52 oz)

SECTION 6
ELECTRICAL ADJUSTMENTS

TAPE DECK SECTION 0 dB=0.775 V

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-ch.
7. Switches and controls should be set as follows unless otherwise specified.
8. Set to test mode. (Press key switch same time SPECTRUM ANALYZER, ENTER and EFFECT button.)

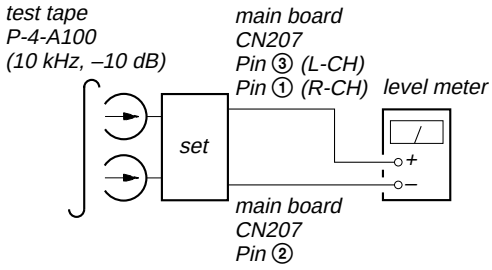
• Test Tape

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

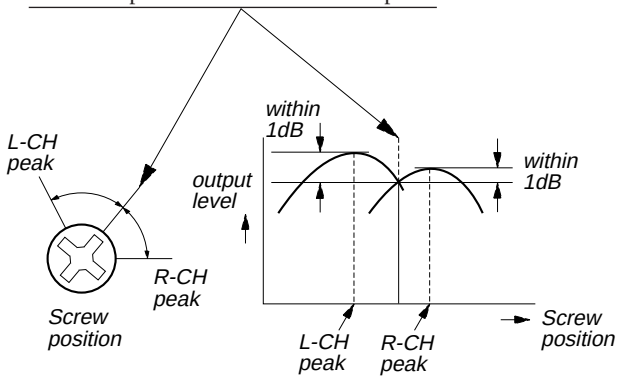
Record/ Playback Head Azimuth Adjustment

DECK A **DECK B**

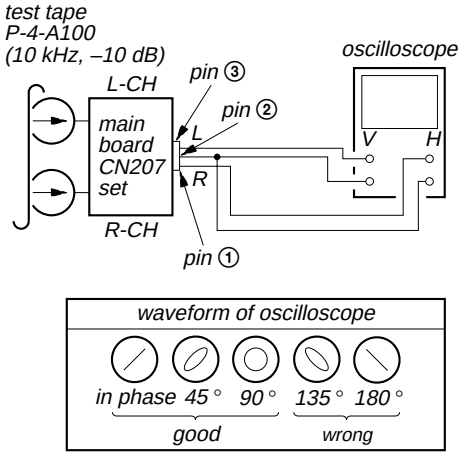
Note: Perform this adjustments for both decks
Procedure:



1. Mode: Playback (FWD)
2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

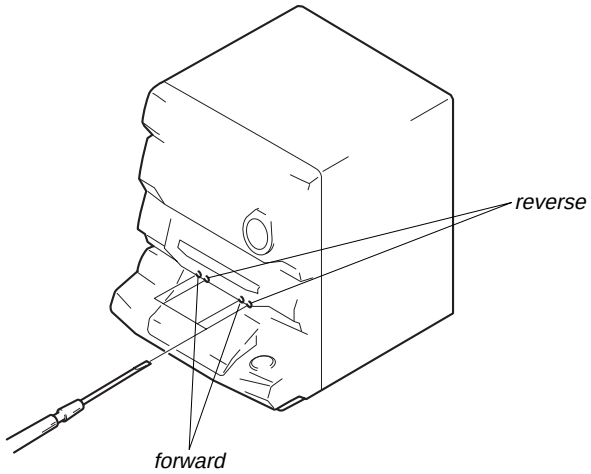


3. Mode: Playback (FWD)



4. Repeat steps 1 to 3 in playback (REV) mode.
5. After the adjustments, apply suitable locking compound to the pats adjusted.

Adjustment Location: Record/Playback Head (Deck A and B) and MAIN board.



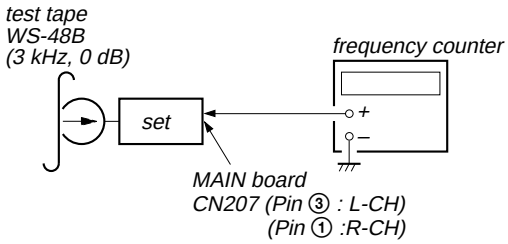
Tape Speed Adjustment DECK A

Note: Start the Tape Speed adjustment as below after setting to the test mode.
In the test mode, the tape speed is high during pressing the H. SPEED DUBB button.

Procedure:

1. Turn the power switch on.
2. Press the SPECTRUM ANALYZER button, ENTER button and EFFECT button simultaneously.
   To exit from the test mode, press the I /⏻ button.

Mode: Playback (FWD)



1. Insert the WS-48B into the deck A and the blank tape into the deck B.
2. Press the REC button and ▷ button on the deck B. Then the deck B is at recording mode.
3. Set the deck A to playback mode.
4. Keep pressing the H. SPEED DUBB button in playback mode. Then at HIGH speed mode.
5. Adjust RV652 on the AUDIO board do that frequency counter reads 6,000 ± 180 Hz.
6. Take off the H. SPEED DUBB button.
   Then at NORMAL speed mode.
7. Adjust RV651 on the AUDIO board so that frequency counter reads 3,000 ± 90 Hz.
8. Frequency difference between deck A and deck B the beginning of the tape should be within ± 1.5%.

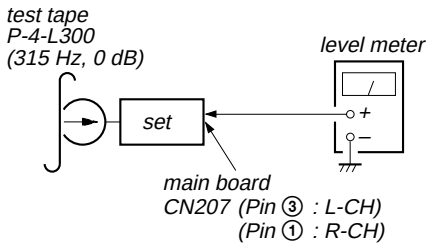
Adjustment Location: AUDIO and MAIN boards

Sample Value of Wow and flutter: 0.3% or less W. RMS (WS-48B)

Playback level Adjustment DECK A DECK B

Procedure:

Mode: Playback (FWD)



Deck A is RV311 (L-CH) and RV411 (R-CH), Deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level:

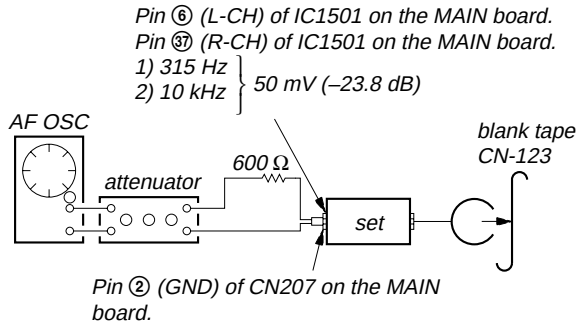
CN207 PB level: 301.5 to 338.3 mV (–8.2 to –7.2 dB) level difference between the channels: within ± 0.5 dB

Adjustment Location: AUDIO and MAIN boards

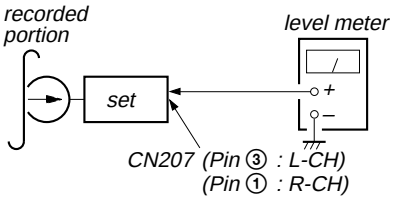
Record bias Current Adjustment DECK B

Procedure:

1. Mode: Record



2. Mode: Playback



Confirm playback the signal recorded in step 1 become adjustable limits as follows.

If these levels do not adjustable limits, adjustment the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 1 and 2.

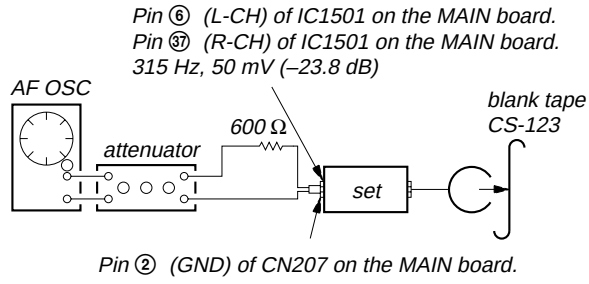
Adjustable limits: Playback output of 315 Hz to playback output of 10 kHz: 0 ± 0.5 dB

Adjustment Location: AUDIO and MAIN boards

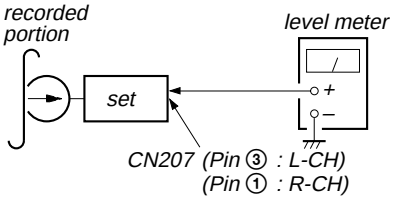
Record Level Adjustment DECK B

Procedure:

1. Mode: Record


Pin ⑥ (L-CH) of IC1501 on the MAIN board.
Pin ㊲ (R-CH) of IC1501 on the MAIN board.
315 Hz, 50 mV (–23.8 dB)
AF OSC
attenuator
600 Ω
blank tape
CS-123
set
Pin ② (GND) of CN207 on the MAIN board.

2. Mode: Playback



Confirm playback the signal recorded in step 1 become adjustable limits as follows.

If these levels do not adjustable limits, adjustment the RV1501 (L-CH) and RV1551 (R-CH) on the MAIN board to repeat steps 1 and 2.

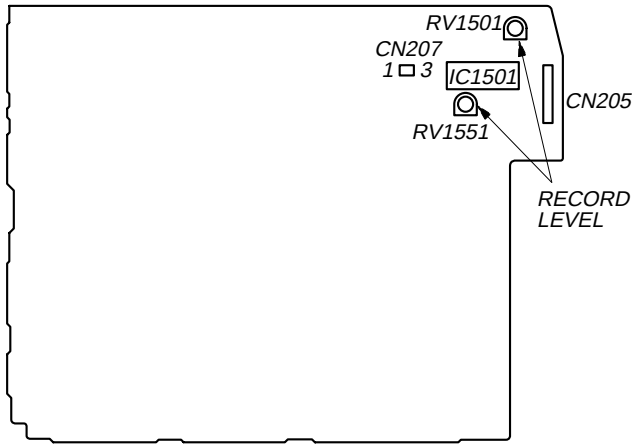
Adjustable limits:

CN207 PB level: 36.7 to 41.1 mV (–26.5 to –25.5 dB)

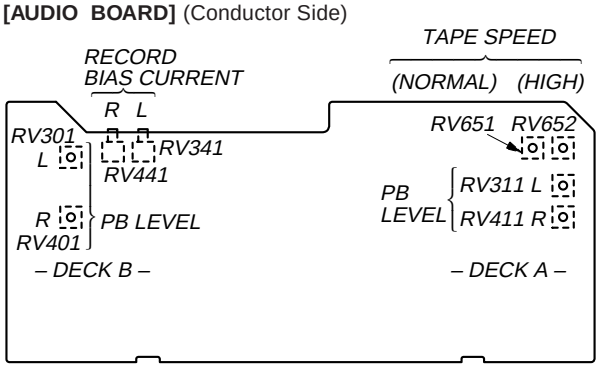
Adjustment Location: MAIN board

Adjustment Location:

[MAIN BOARD] (Component Side)



[AUDIO BOARD] (Conductor Side)



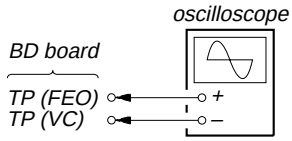
* As the adjustment parts is mounted on the component side, adjust it through a hole in the AUDIO board form conductor side. (Except RV431, 441)

CD SECTION

Note:

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

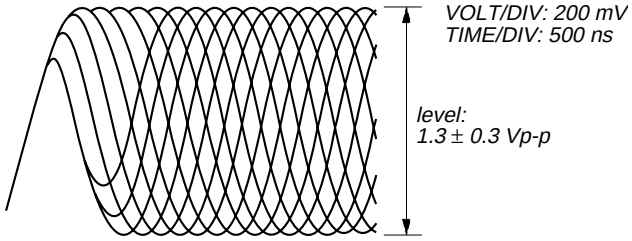
Focus Bias check



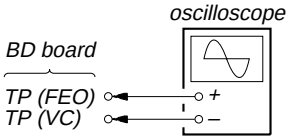
Procedure:

1. Connect oscilloscope to test point TP (RF). (GND terminal: VC)
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that the shape "◇" can be clearly distinguished at the center of the waveform and check the RF signal level.

- **RF signal**



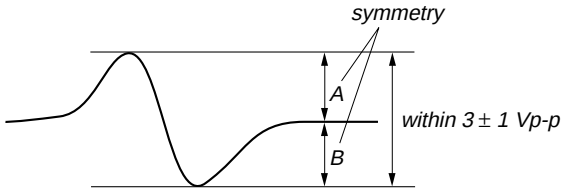
S Curve Check



Procedure:

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3 ± 1 Vp-p.

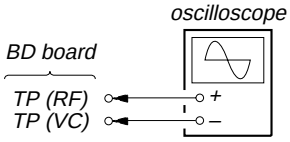
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

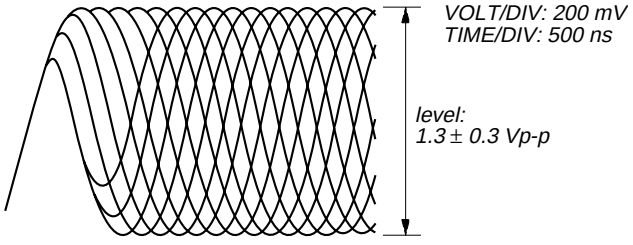
RF Level Check



Procedure:

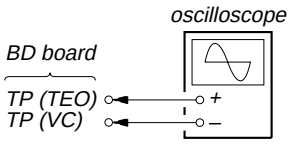
1. Connect oscilloscope to test point TP (TEO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

- **SF signal**



Note: Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

E-F Balance (1 Track Jump) check
(Without remote commander)

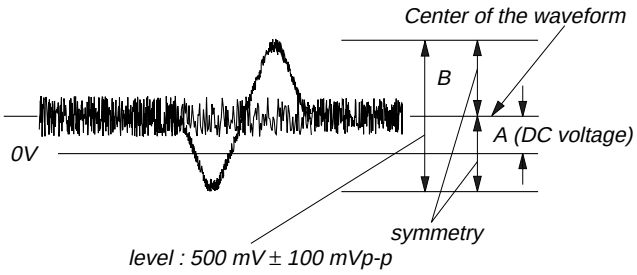


Procedure:

1. Connect oscilloscope to test point TP (TEO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the "▮▮ (Pause)" button. (Becomes the 1 track jump mode)
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following:

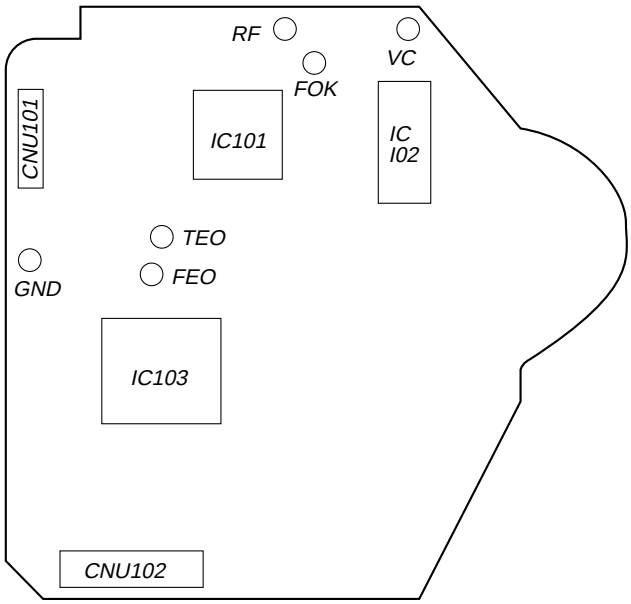
$$\frac{A - B}{2\,(A + B)} \times 100 = \pm 7\ (\%)$$

1 track jump waveform



Adjustment Location:

[BD BOARD] (Conductor Side)



SECTION 7
DIAGRAMS

7-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC301 μPD780018YGF-028-3BA (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	TA-MUTE	O	Line muting on/off control signal output terminal "L": muting on
2	DBFB-H/L	O	DBFB normal/high selection signal output to the M62427FP (IC201) "L": DBFB high, "H": DBFB low
3	427-LAT	O	Serial data latch pulse output to the M62427FP (IC201)
4	K-CON-LAT	O	Serial data latch pulse output terminal Not used (open)
5	K-CON-ON	O	On/off selection signal output of the key control circuit "L": on Not used (open)
6	F-RELAY	O	Relay drive signal output for the speaker protect "H": on
7	R-RELAY	O	Relay drive signal output for the speaker protect "H": on Not used (open)
8	PL-RELAY	O	Relay drive signal output for the speaker protect "H": on Not used (open)
9	TEST	I	Test terminal Connected to ground
10	X2	O	Main system clock output terminal (5 MHz)
11	X1	I	Main system clock input terminal (5 MHz)
12	VDD	—	Power supply terminal (+5V)
13	XT2	O	Sub system clock output terminal (32.768 kHz)
14	XT1	I	Sub system clock input terminal (32.768 kHz)
15	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC302) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
16	(INT/IN)	I	Connected to ground
17	(INT/IN/OUT)	I	Connected to ground
18	SCOR	I	Subcode sync (S0+S1) detection signal input from the CXD2519Q (IC103)
19	SOFT-TEST	O	Output terminal for the software test (open)
20	$\overline{\text{AC-CUT}}$	I	AC off detection signal input from the reset signal generator (IC302)
21	RDS-INT	I	Serial data reading clock signal input for the radio data system Not used (fixed at "L")
22	RDS-DATA	I	Serial data input for the radio data system Not used (open)
23	VDD	—	Power supply terminal (+5V)
24	AVDD	—	Power supply terminal (+5V) (for A/D conversion)
25	ADJ	I	Setting terminal for the CD test mode Normally: fixed at "H"
26	A-SHUT	I	Shut off detection signal input from the deck-A side reel pulse detector (Q1001)
27	B-SHUT	I	Shut off detection signal input from the deck-B side reel pulse detector (Q1002)
28	B-HALF	I	Detection input from the deck-B half detect switch (S1006)
29	CLK-CHECK	I	Not used (fixed at "L")
30	SPEC-IN	I	Setting terminal for the version
31	ADJ2	I	Setting terminal for the CD test mode Normally: "L"
32	DEMO-MODE	I	Setting terminal for the demonstration H/L Fixed at "L"
33	AVSS	—	Ground terminal (for A/D conversion)
34	SQ-DATA-IN	I	Sub-code Q data input from the CXD2519Q (IC103)
35	NCO	O	Not used (open)
36	SQ-CLK	O	Sub-code Q data reading clock signal output to the CXD2519Q (IC103)
37	SW-ON/OFF	O	Super woofer speaker on/off control signal output terminal Not used (open)
38	FUNC1	I	Setting terminal for the function 1 Fixed at "L"
39	FUNC2	I	Setting terminal for the function 2 Fixed at "L"
40	VSS	—	Ground terminal
41	VOL-LAT	O	Serial data latch pulse output terminal Not used (open)
42	PL-LAT	O	Serial data latch pulse output terminal Not used (open)
43	COM-DIN	I	Serial data input terminal Not used (fixed at "L")

Pin No.	Pin Name	I/O	Function
44	COM-DOUT	O	Serial data output to the M62427FP (IC201)
45	COM-CLK	O	Serial data transfer clock signal output to the M62427FP (IC201)
46	CD-POWER	O	Power on/off control signal output for the CD mechanism deck section "H": power on, "L": standby
47	CD-DATA	O	Serial data output to the CXD2519Q (IC103)
48	CD-CLK	O	Serial data transfer clock signal output to the CXD2519Q (IC103)
49	MSM-CND	O	Command data output terminal Not used (open)
50	MSM-BUSY	I	Busy signal input terminal "L": busy status Not used (fixed at "L")
51	MSM-LAT	O	Serial data latch pulse output terminal Not used (open)
52	MSM-NAR	O	NAR signal output terminal Not used (open)
53	MSM-CH	O	Channel select signal output terminal Not used (open)
54	INPUT-CHANGE	O	Attenuate control (–5 dB) signal output for the input gain control "L": VIDEO, "H": MD
55	IIC-DATA	I/O	Communication data bus with the fluorescent indicator tube driver (IC601)
56	IIC-CLK	I/O	Communication data reading clock signal input or transfer clock signal output with the fluorescent indicator tube driver (IC601)
57	$\overline{\text{XRST}}$	O	Reset signal output to the CXA1992AR (IC101), BA5941FP (IC102) and CXD2519Q (IC103) on the CD mechanism deck section "L": reset
58	XLT	O	Serial data latch pulse output to the CXD2519Q (IC103)
59	WDCL	O	Word clock signal output terminal Not used (open)
60	TBL-L	O	Motor drive signal output to the disc tray turn motor driver (IC201) *1
61	TBL-R	O	Motor drive signal output to the disc tray turn motor driver (IC201) *1
62	TRAY-LED	O	LED drive signal output for the CD tray LED indicate "H": LED on
63	LOAD-OUT	O	Motor drive signal output terminal Not used (open)
64	LOAD-IN	O	Motor drive signal output terminal Not used (open)
65	ST-CLK	O	PLL serial data transfer clock signal output to the FM/AM tuner unit
66	ST-DIN	I	PLL serial data input from the FM/AM tuner unit
67	ST-DOUT	O	PLL serial data output to the FM/AM tuner unit
68	ST-CE	O	PLL chip enable signal output to the FM/AM tuner unit
69	TUNED	I	Tuning detection signal input from the FM/AM tuner unit "L": tuned
70	STEREO	I	FM stereo detection signal input from the FM/AM tuner unit "L": stereo
71	VSS	—	Ground terminal
72	ST-MUTE	O	Tuner muting control signal output to the FM/AM tuner unit "L": muting on
73	SENS2	I	Internal status (SENSE) signal input from the CXA1992AR (IC101)
74	SENS	I	Internal status (SENSE) signal input from the CXD2519Q (IC103)
75	DISC-SENS	I	Disc status detection signal input terminal Not used (open)
76	T-SENS	I	Disc tray status detection signal input from the disc tray sensor (IC202)
77	UP SW	I	Detection input from the UP switch (S201)
78	ENC3	I	Rotary encoder pulse input for the disc tray address detect Not used (open)
79	ENC2	I	
80	ENC1	I	
81	OUT-OPEN	I	Disc tray open/close detect switch input terminal "L": open, "H": close Not used (open)
82	CAP-H/N	O	High/normal speed selection signal output of the capstan motor (M1) "L": high speed, "H": normal speed
83	A-TRG	O	Motor drive signal output to the trigger motor driver (IC1502)
84	B-TRG	O	Motor drive signal output to the trigger motor driver (IC1502)
85	TRG-LOW	O	Motor control signal output to the trigger motor driver (IC1502)

Pin No.	Pin Name	I/O	Function
86	CAP-M-ON/OFF	O	Capstan motor (M1) on/off control signal output terminal "L": capstan motor on
87	PB-A/B	O	Deck-A/B selection signal output to the HA12203NT (IC1501) "L": deck-A, "H": deck-B
88	EQ-H/N	O	Normal/high speed selection signal output to the HA12203NT (IC1501) "L": normal speed, "H": high speed
89	BIAS	O	Recording bias on/off selection signal output to the HA12203NT (IC1501) "L": bias off, "H": bias on
90	REC-MUTE	O	Recording muting on/off selection signal output to the HA12203NT (IC1501) "L": muting on, "H": muting off
91	NR-ON/OFF	O	Dolby NR on/off selection signal output to the HA12203NT (IC1501) "L": dolby off, "H": dolby on
92	R/P-PASS	O	Recording/playback/pass selection signal output to the HA12203NT (IC1501) "L": recording mode
93	TC-MUTE	O	Line muting on/off selection signal output to the HA12203NT (IC1501) "L": muting off, "H": muting on
94	A-PLAY-SW	I	Detection input from the deck- A play detect switch (S1001) "H": deck-A play
95	B-PLAY-SW	I	Detection input from the deck- B play detect switch (S1002) "H": deck-B play
96	RELAY	O	Recording/playback select signal output to the REC/PB switch (IC602) "L": playback, "H": recording
97	A-HALF	I	Detection input from the deck-A cassette detect switch (S1003) "L": cassette in, "H": no cassette
98	POWER	O	Power on/off control signal output for the audio system (+5V) and deck, panel, audio system (+7V and –7V) "L": power on, "H": standby
99	SW-F-CON	O	Super woofer mode control signal output to the M62427FP (IC201) "H": music, "L": movie
100	STK-MUTE	O	Power amplifier on/off selection signal output terminal "L": on, "H": standby

*1 Disc tray turn motor (M201) control

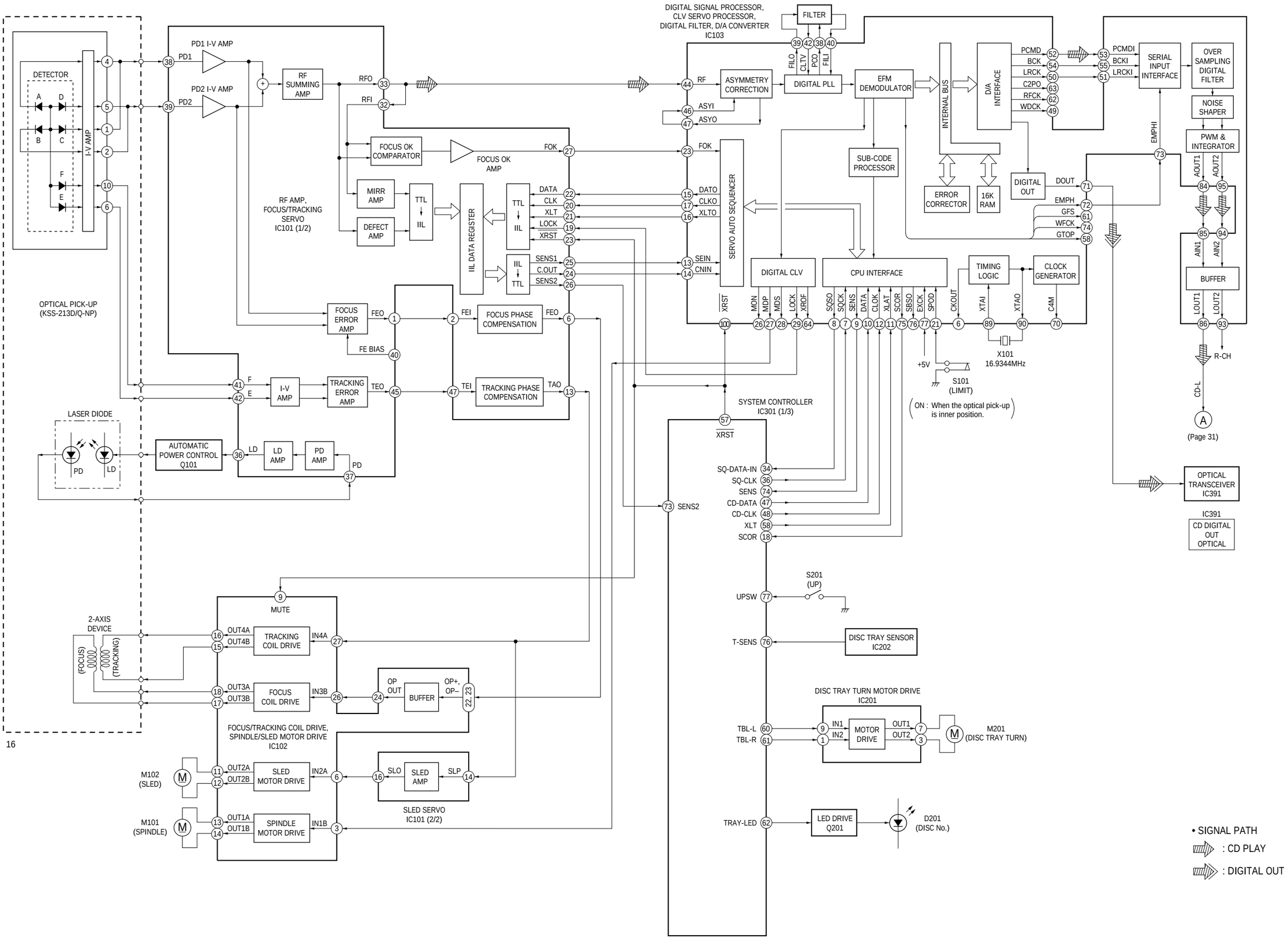
Mode / Terminal	STOP	COUNTER-CLOCKWISE	CLOCKWISE	BRAKE
TBL-L (pin ⑥⓪)	"H"	"L"	"H"	"L"
TBL-R (pin ⑥①)	"H"	"H"	"L"	"L"

• **PANEL BOARD IC601 TMP87CH75F-6659**

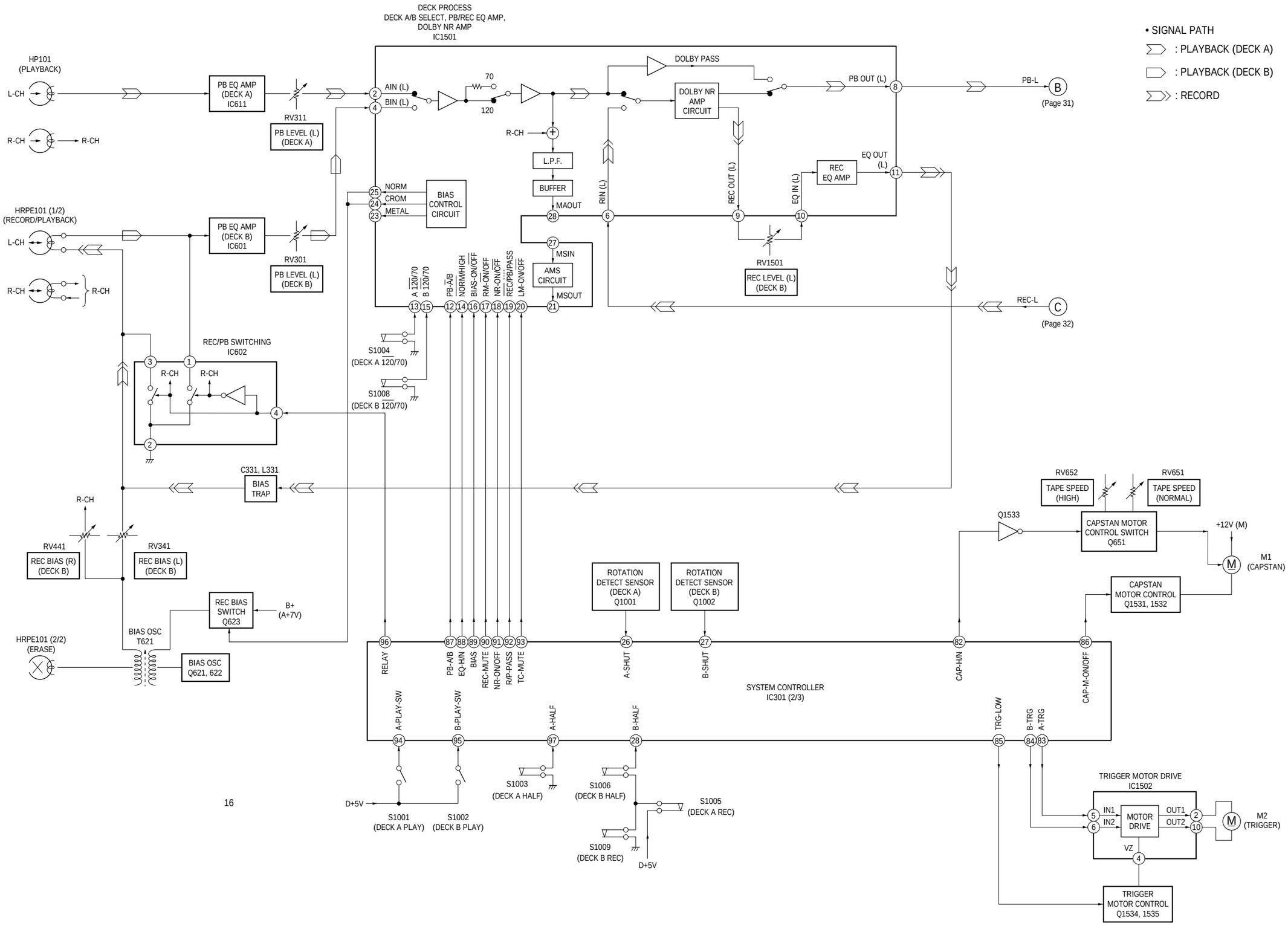
(FLUORESCENT INDICATOR TUBE DRIVE, LED DRIVE, KEY CONTROL)

Pin No.	Pin Name	I/O	Function
1	SEG-35	O	Segment drive signal output to the fluorescent indicator tube (FL601)
2	V-LOAD	—	Power supply terminal (–30V) (for fluorescent indicator tube drive)
3	LED1	O	LED drive signal output terminal (TUNER/BAND)
4	LED2	O	LED drive signal output terminal (ENTER/NEXT, GROOVE)
5	LED3	O	LED drive signal output terminal (SUPER WOOFER, CD ❚❚)
6	LED4	O	LED drive signal output terminal (CD ▷)
7	LED5	O	LED drive signal output terminal (DECK B ◁)
8	LED6	O	LED drive signal output terminal (DECK B ▷)
9	LED7	O	LED drive signal output terminal (TAPE ❚❚, ● REC)
10	LED8	O	LED drive signal output terminal (EFFECT, ENTER)
11	VSS	—	Ground terminal
12	X-OUT	O	System clock output terminal (8 MHz)
13	X-IN	I	System clock input terminal (8 MHz)
14	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC302) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
15	LED9	O	LED drive signal output terminal (FILE 1, FILE 2)
16	LED10	O	LED drive signal output terminal (FILE 3, FILE 4)
17	TEST	I	Connected to ground
18	LED11	O	LED drive signal output terminal (FILE 5, P FILE)
19	LED12	O	LED drive signal output terminal (OTHERS, MUSIC)
20	LED13	O	LED drive signal output terminal Not used (open)
21	LED14	O	LED drive signal output terminal Not used (open)
22	LED15	O	LED drive signal output terminal (DECK A ▷)
23	LED16	O	LED drive signal output terminal (DECK A ◁)
24	VOL-A	I	Rotary encoder pulse input from the S701 (VOLUME)
25	LED17	O	LED drive signal output terminal Not used in this set
26	JOG-A	I	Jog dial pulse input from the S711 (⏮ AMS ⏭ jog dial)
27	CLOCK	I/O	Communication data reading clock signal input or transfer clock signal output with the system controller (IC301)
28	DATA	I/O	Communication data bus with the system controller (IC301)
29	LED SELECT	O	LED selection signal output terminal
30	VDD	—	Power supply terminal (+5V)
31	VSS	—	Ground terminal
32	MODEL	I	Destination setting terminal
33	KEY-1	I	Key input terminal (A/D input) (S601 to 607, 609 to 616) ENTER/NEXT, TUNER MEMORY, TUNING MODE, TUNER/BAND, TUNING +/–, STEREO/MONO, FUNCTION, GROOVE, GEQ ▲/◄/►/▼, SUPER WOOFER, SUPER W MODE keys input
34	KEY-2	I	Key input terminal (A/D input) (S621 to 625, 651 to 659) EFFECT, SOUND CONTROL WAVE, KARAOKE PON/MPX, SOUND CONTROL SURROUND, P FILE MEMORY, DECK B ▷/◁/▶▶/◀◀/■/❚❚, ● REC, H SPEED DUB, CD SYNC keys input
35	KEY-3	I	Key input terminal (A/D input) (S619, 620, 676 to 679, 681 to 686) GEQ CONTROL, ENTER, CD ▷/■/❚❚, DISC SKIP, CD ▶▶, REPEAT, PLAY MODE, 1/ALL DISCS, EDIT, CD ◀◀ keys input
36	KEY-4	I	Key input terminal (A/D input) (S627 to 634, 667, 668) SPECTRUM ANALYZER, DISPLAY/DEMO, POWER, ◴/CLOCK SET, REC, DAILY 1/2, SLEEP, NON-STOP, DJ MIX LOOP keys input
37	KEY-5	I	Key input terminal (A/D input) (S641 to 647, 661 to 666) DECK A ▷/◁/■/◀◀/▶▶, DOLBY NR, DIRECTION, DIRECT PLAY DISC 1/2/3/4/5, DJ MIX FLASH keys input
38	DOOR SW	I	CD door switch (S691 (⏏ OPEN)) input terminal
39	SIRCS	I	Remote control signal input from the remote control receiver (IC602)
40	VOL-B	I	Rotary encoder pulse input from the S701 (VOLUME)
41	JOG-B	I	Jog dial pulse input from the S711 (⏮ AMS ⏭ jog dial)
42	SPEANA-1	I	Spectrum analyzer drive (for low frequency) signal input terminal
43	SPEANA-2	I	Spectrum analyzer drive (for low and middle frequency) signal input terminal
44	SPEANA-3	I	Spectrum analyzer drive (for middle and high frequency) signal input terminal
45	SPEANA-4	I	Spectrum analyzer drive (for high frequency) signal input terminal
46	L+R	I	Spectrum analyzer drive (for VACS, non-stop signal) signal input terminal
47	LED18	O	LED drive signal output terminal (NON-STOP)
48	VASS	—	Ground terminal
49	VAREF	I	Reference voltage (+5V) input terminal (for A/D conversion)
50	VDD	—	Power supply terminal (+5V)
51 to 66	GR-1 to GR-16	O	Grid drive signal output to the fluorescent indicator tube (FL601)
67 to 100	SEG-1 to SEG-34	O	Segment drive signal output to the fluorescent indicator tube (FL601)

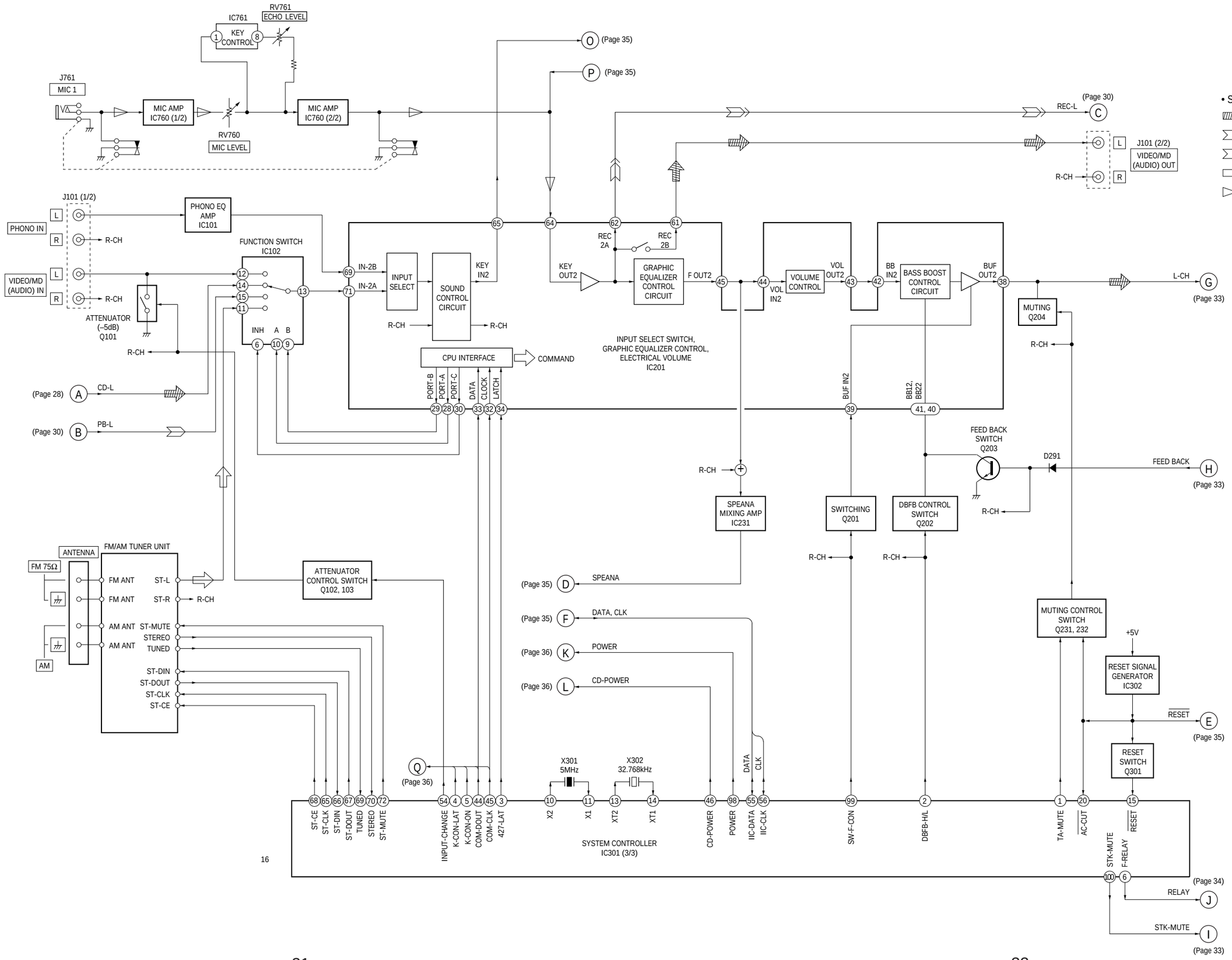
7-2. BLOCK DIAGRAM – CD SECTION –



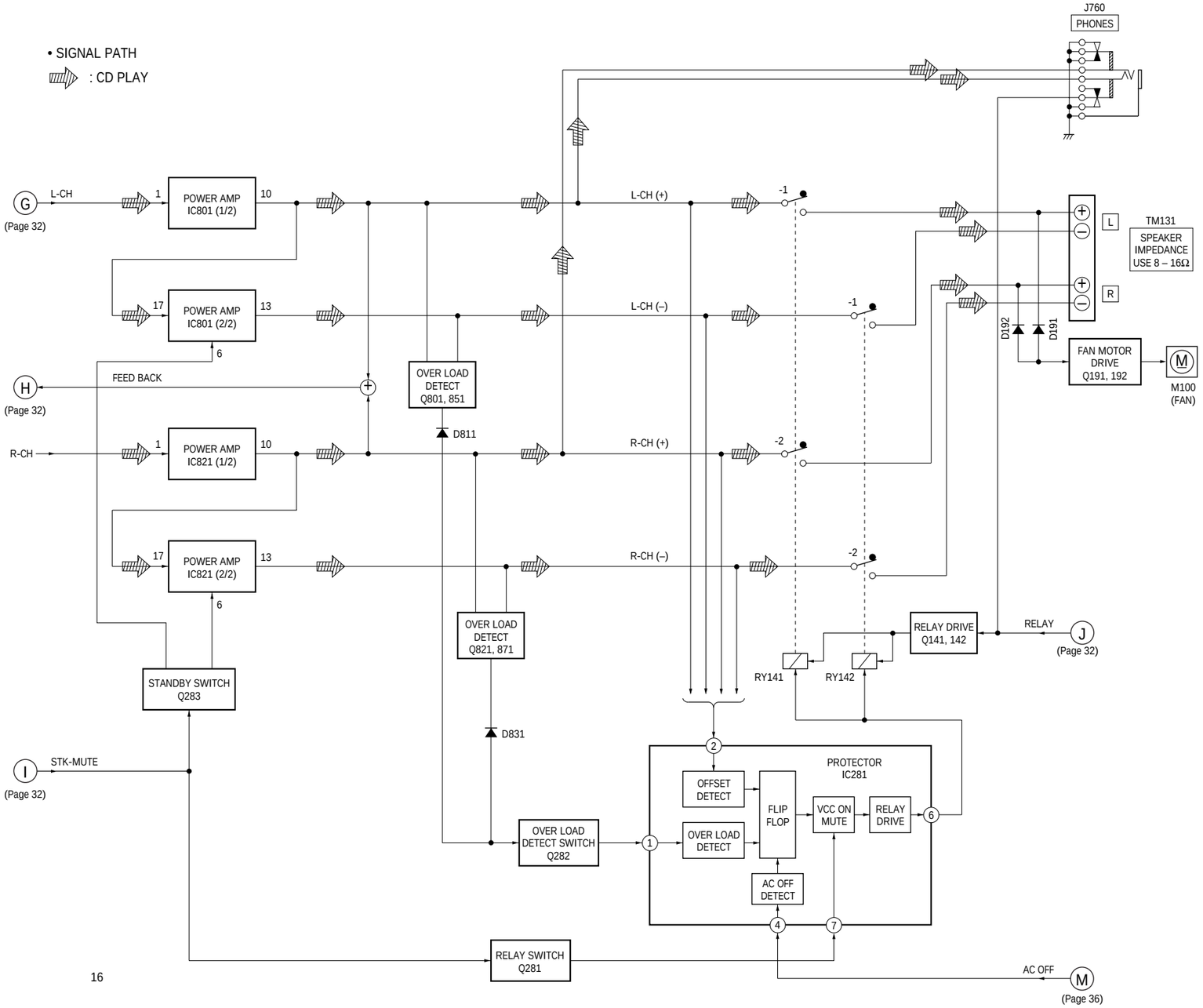
7-3. BLOCK DIAGRAM – TAPE DECK SECTION –



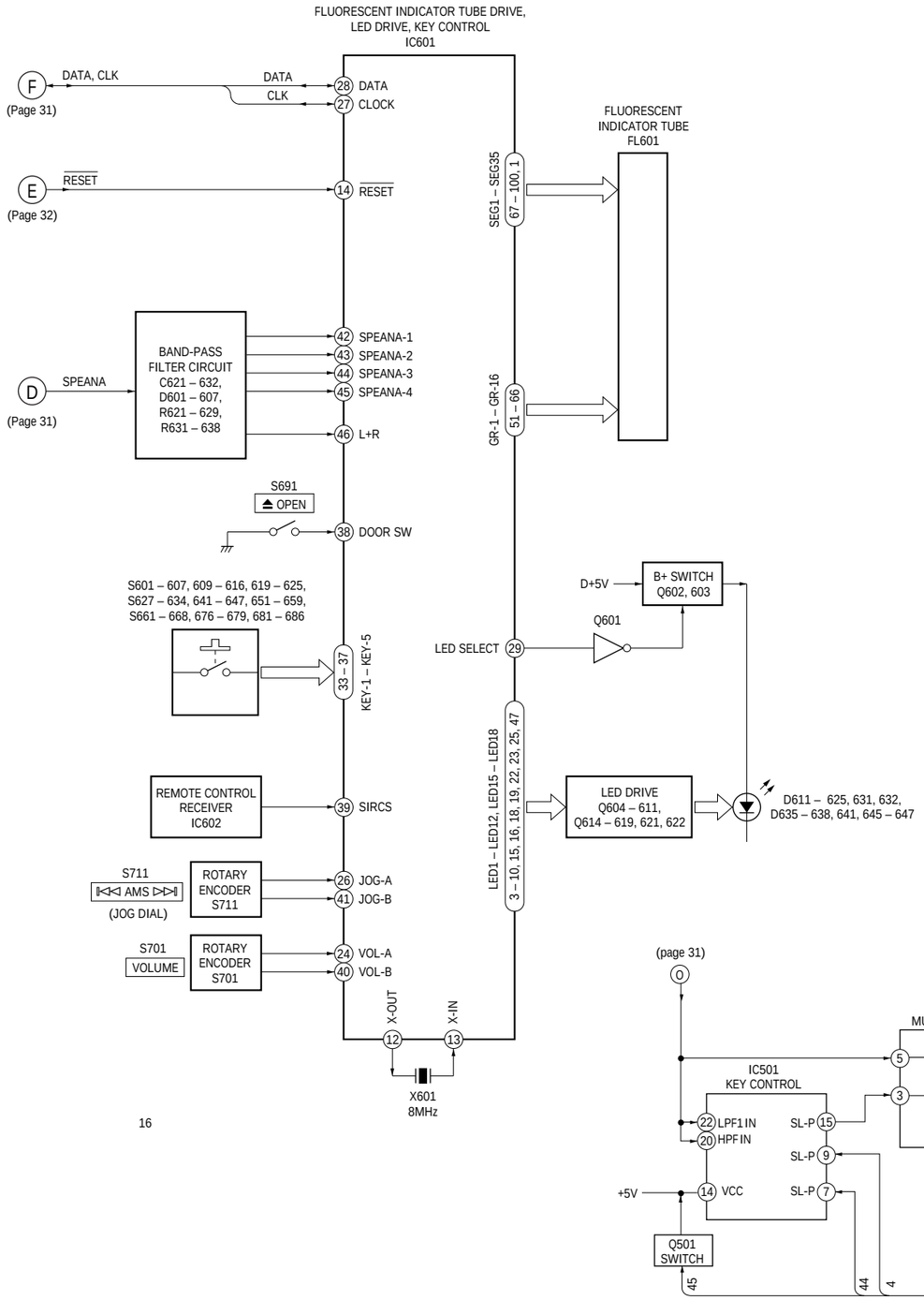
7-4. BLOCK DIAGRAM – MAIN SECTION (1/2) –

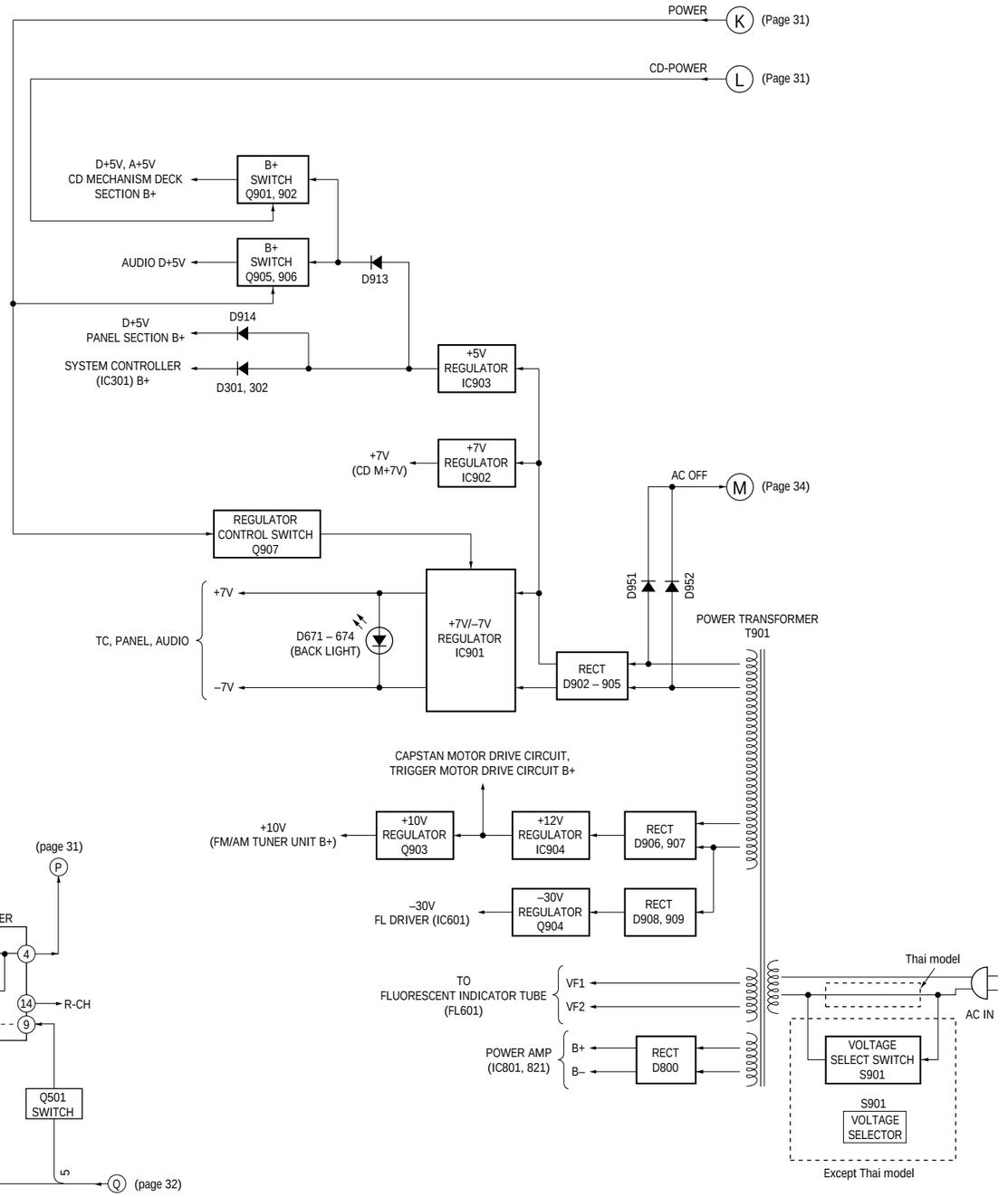


7-5. BLOCK DIAGRAM – MAIN SECTION (2/2) –

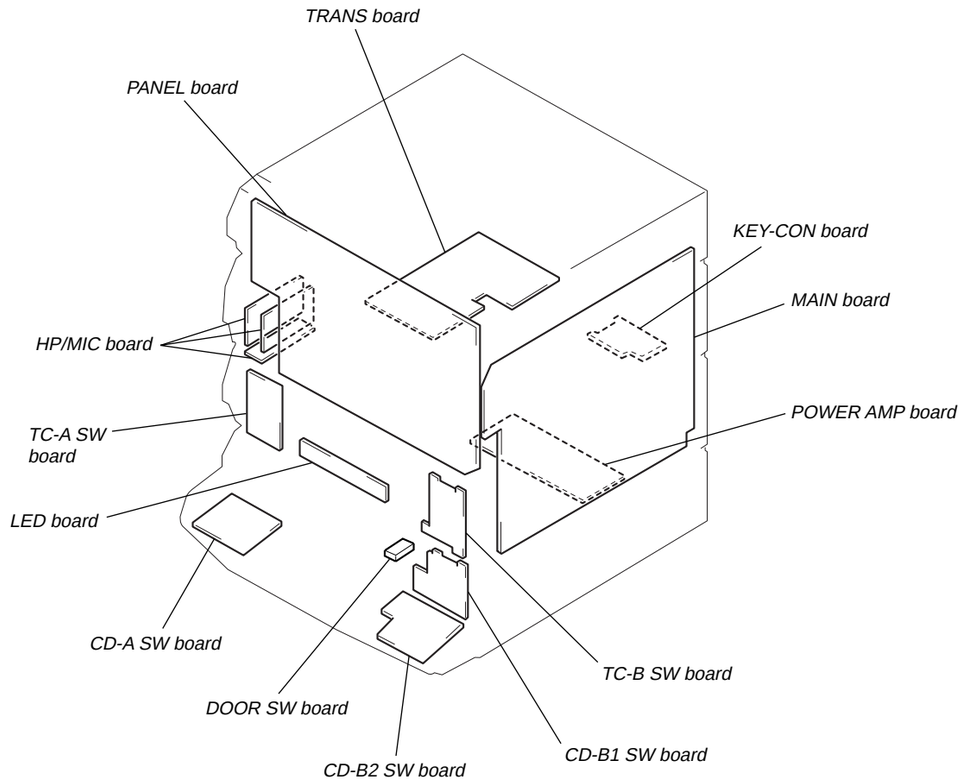


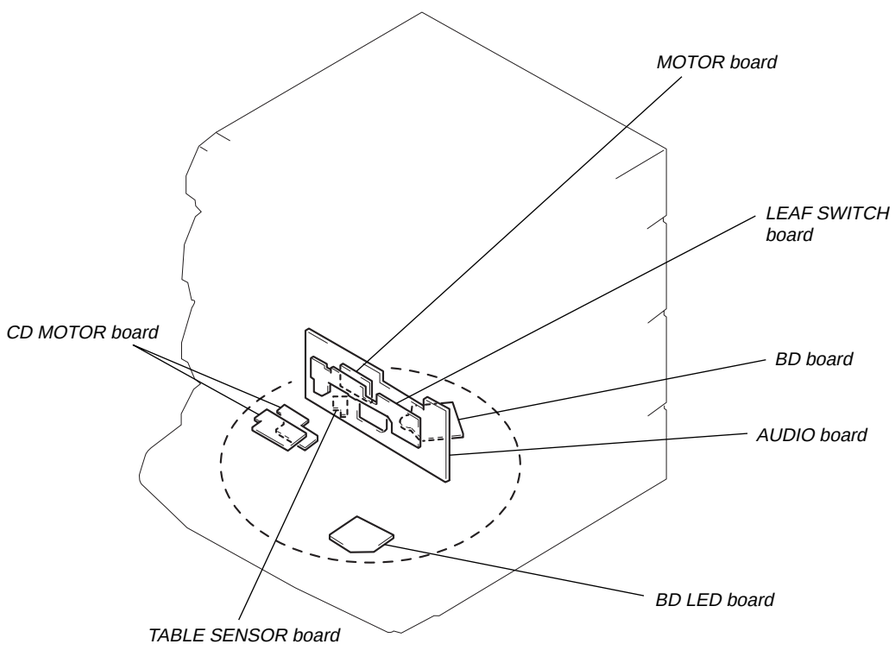
7-6. BLOCK DIAGRAM – DISPLAY/KEY CONTROL/POWER SUPPLY Section –





7-7. CIRCUIT BOARDS LOCATION





THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B− : B– Line.
- : adjustment for repair.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : TUNER (FM/AM)
  - : PB (DECK A)
  - : PB (DECK B)
  - : REC (DECK B)
  - : CD
  - : digital out
  - : MIC INPUT
- Abbreviation
  - IA : Indonesian
  - TH : Thai

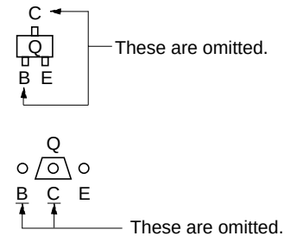
Note on Printed Wiring Boards:

- : parts extracted from the component side.
- △ : internal component.
- : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

- Indication of transistor.



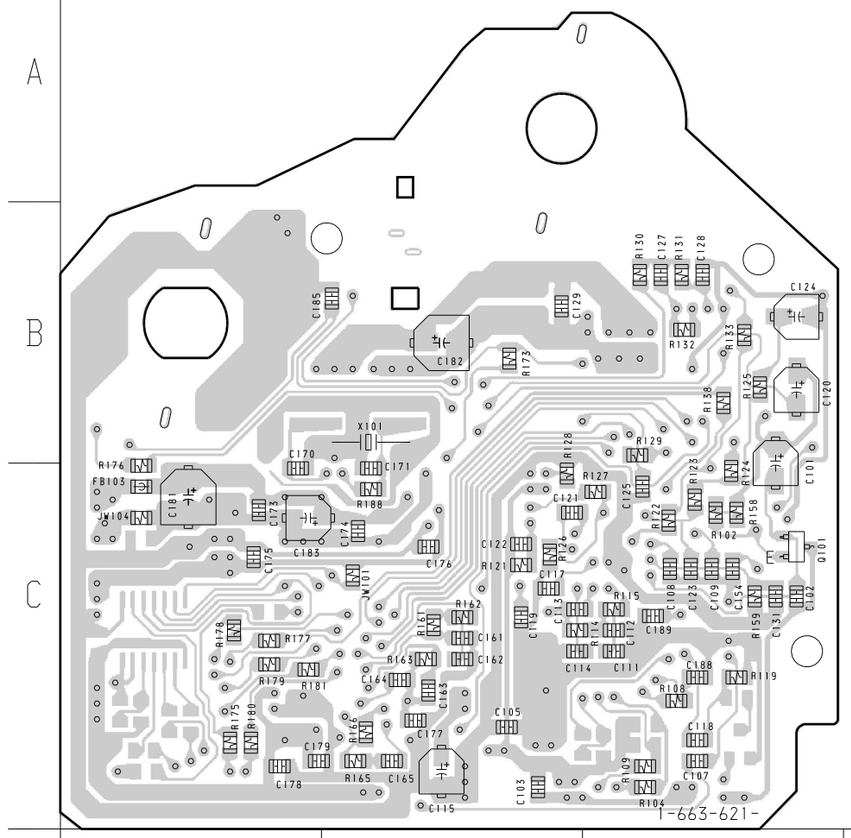
7-8. PRINTED WIRING BOARD – CD SECTION (1/2) –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

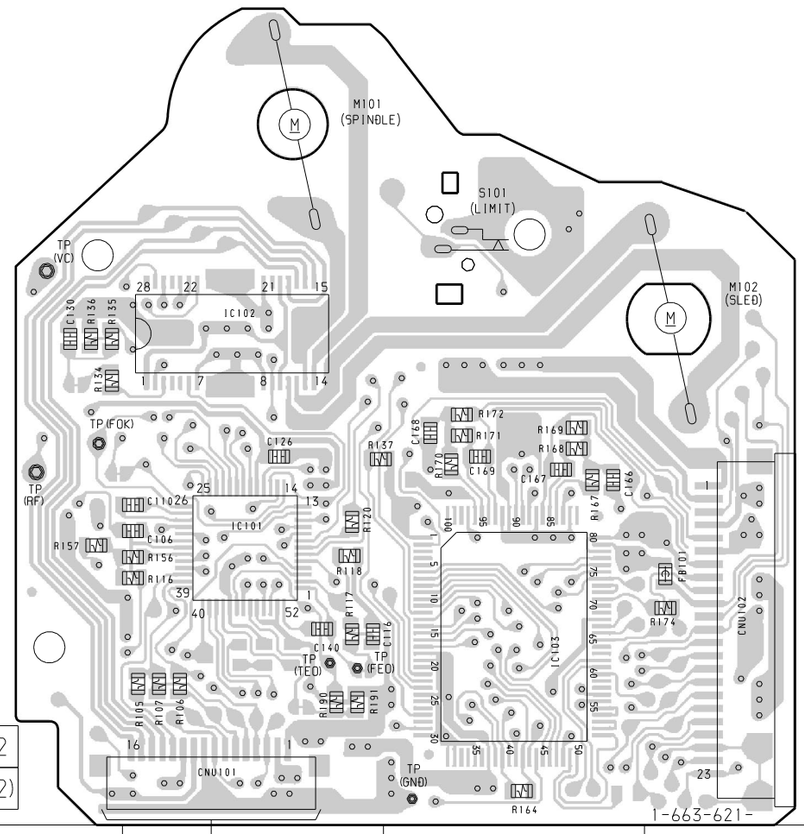
• **Semiconductor Location**

Ref. No.	Location
IC101	C-5
IC201	B-5
IC501	C-6
Q101	C-3

【BD BOARD】(SIDE A)



【BD BOARD】(SIDE B)



MAIN BOARD CN202

(Page 51)

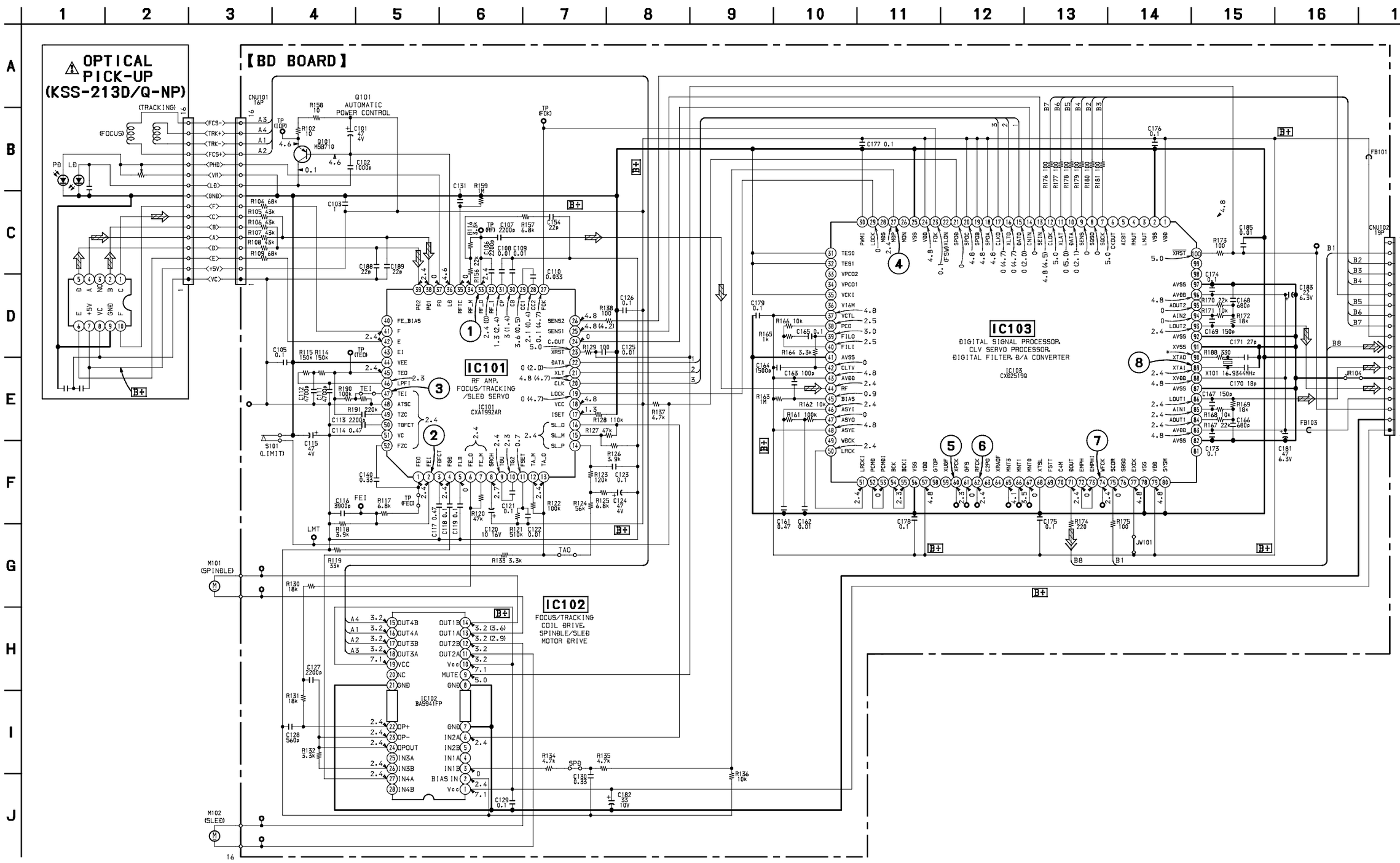
12, 22, 32
(12, 22, 32)

12, 22, 32
(12, 22, 32)

OPTICAL PICK-UP
KSS-213D/Q-NP

7-9. SCHEMATIC DIAGRAM – CD SECTION (1/2) –

• See page 38 for Note. • See page 77 for Waveforms. • See page 78 for IC Block Diagrams.



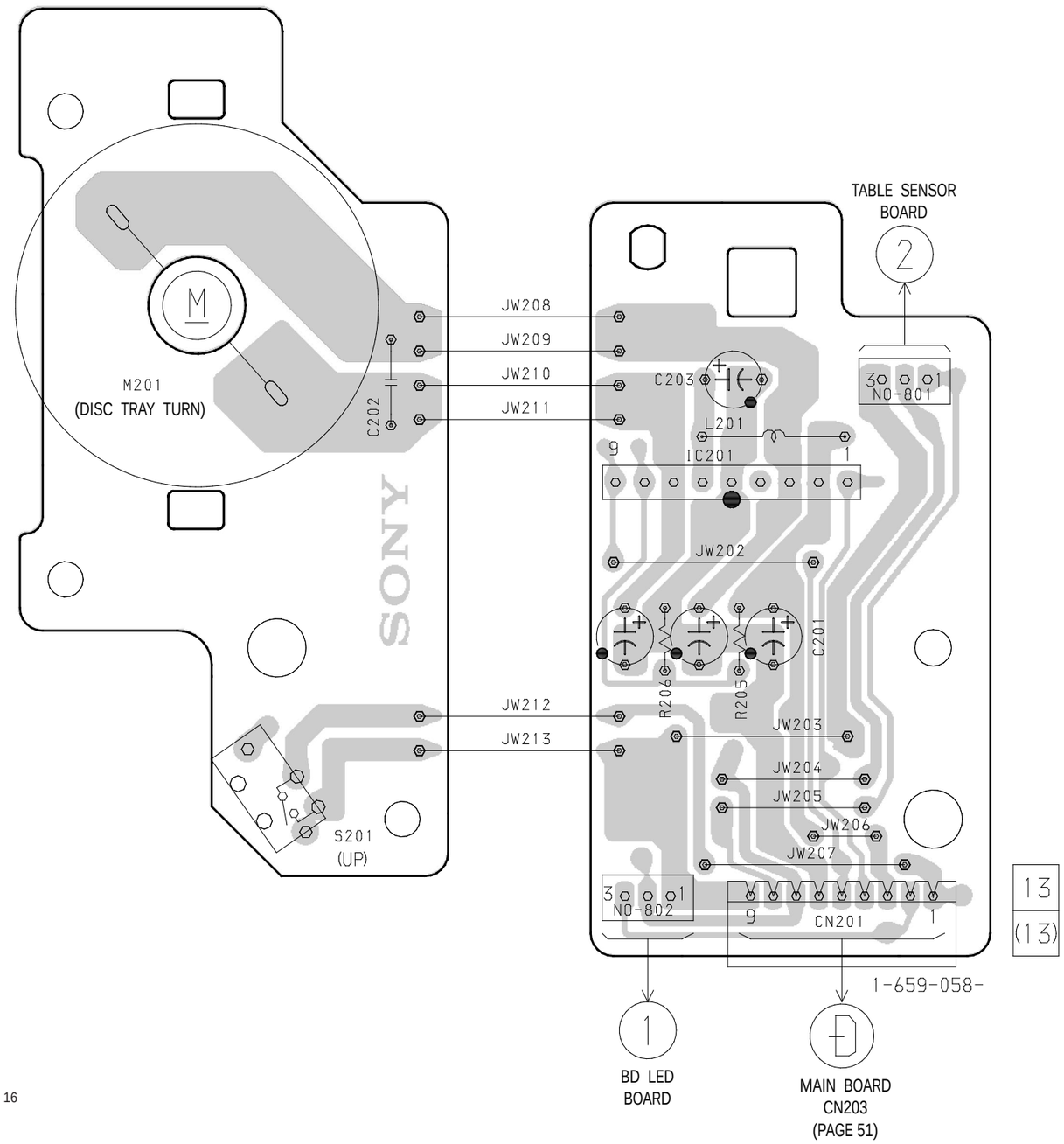
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : STOP
( ) : PLAY

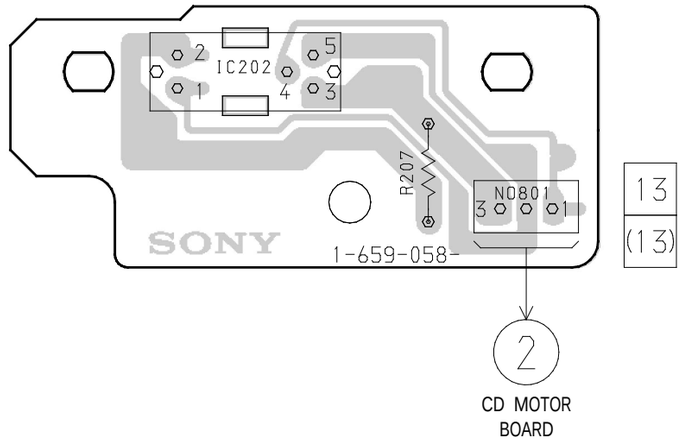
7-10. PRINTED WIRING BOARDS – CD SECTION (2/2) –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

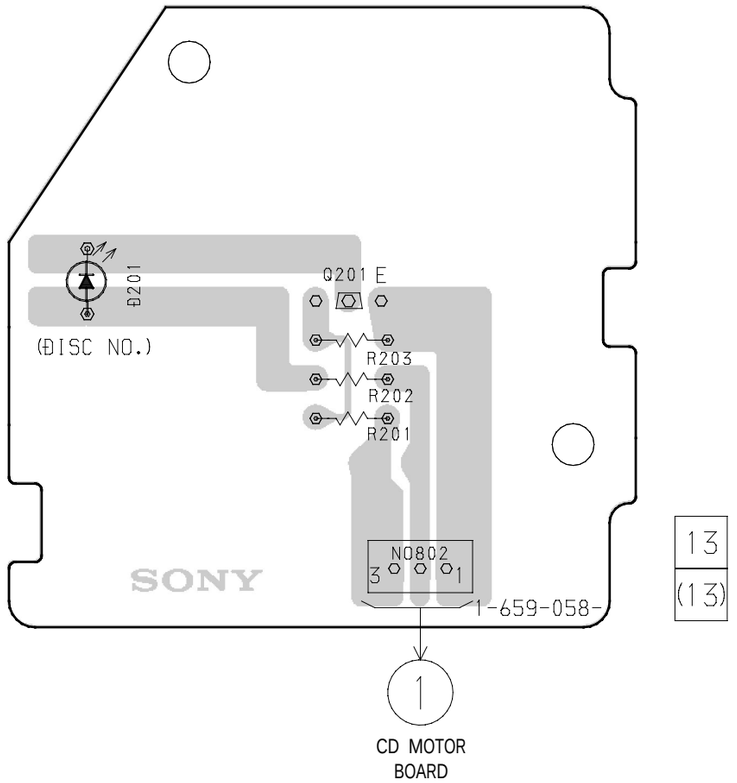
【CD MOTOR BOARD】



【TABLE SENSOR BOARD】

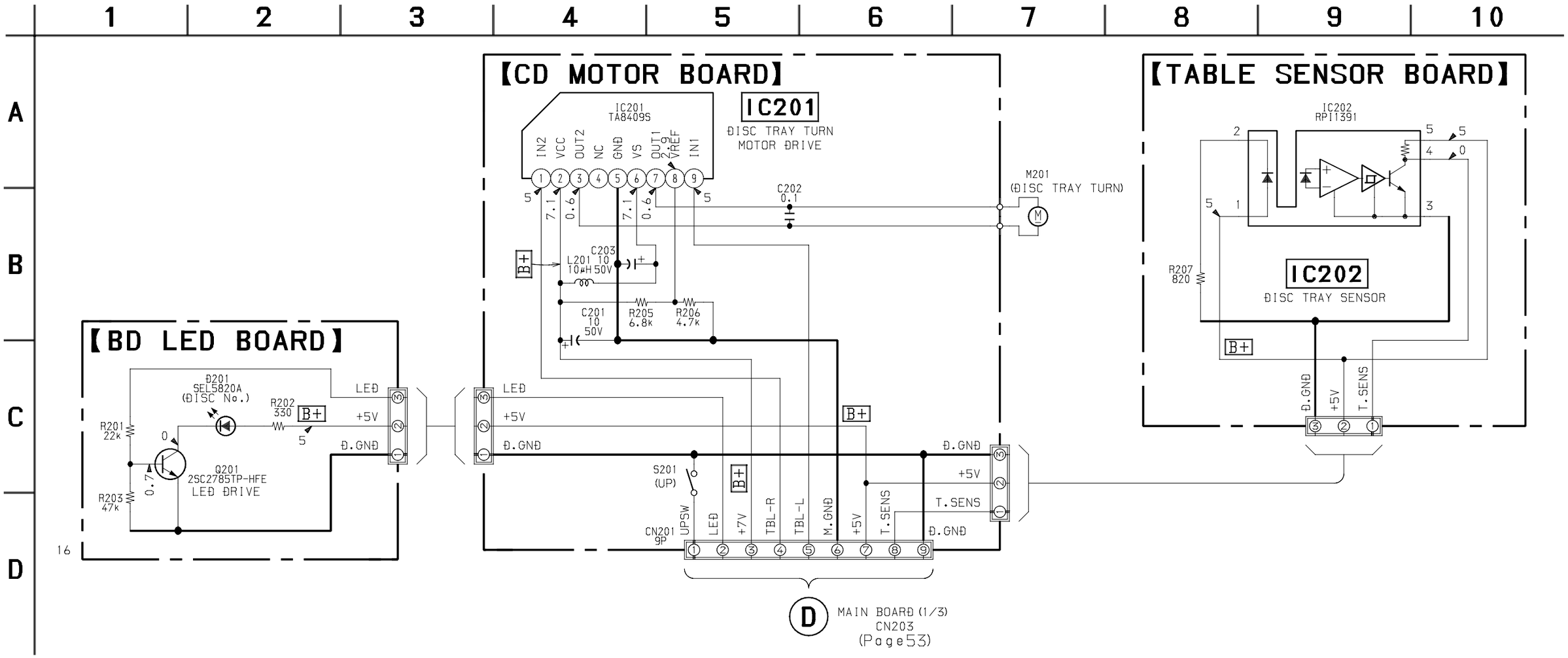


【BD LED BOARD】



7-11. SCHEMATIC DIAGRAM – CD SECTION (2/2) –

• See page 38 for Note. • See page 80 for IC Block Diagrams.

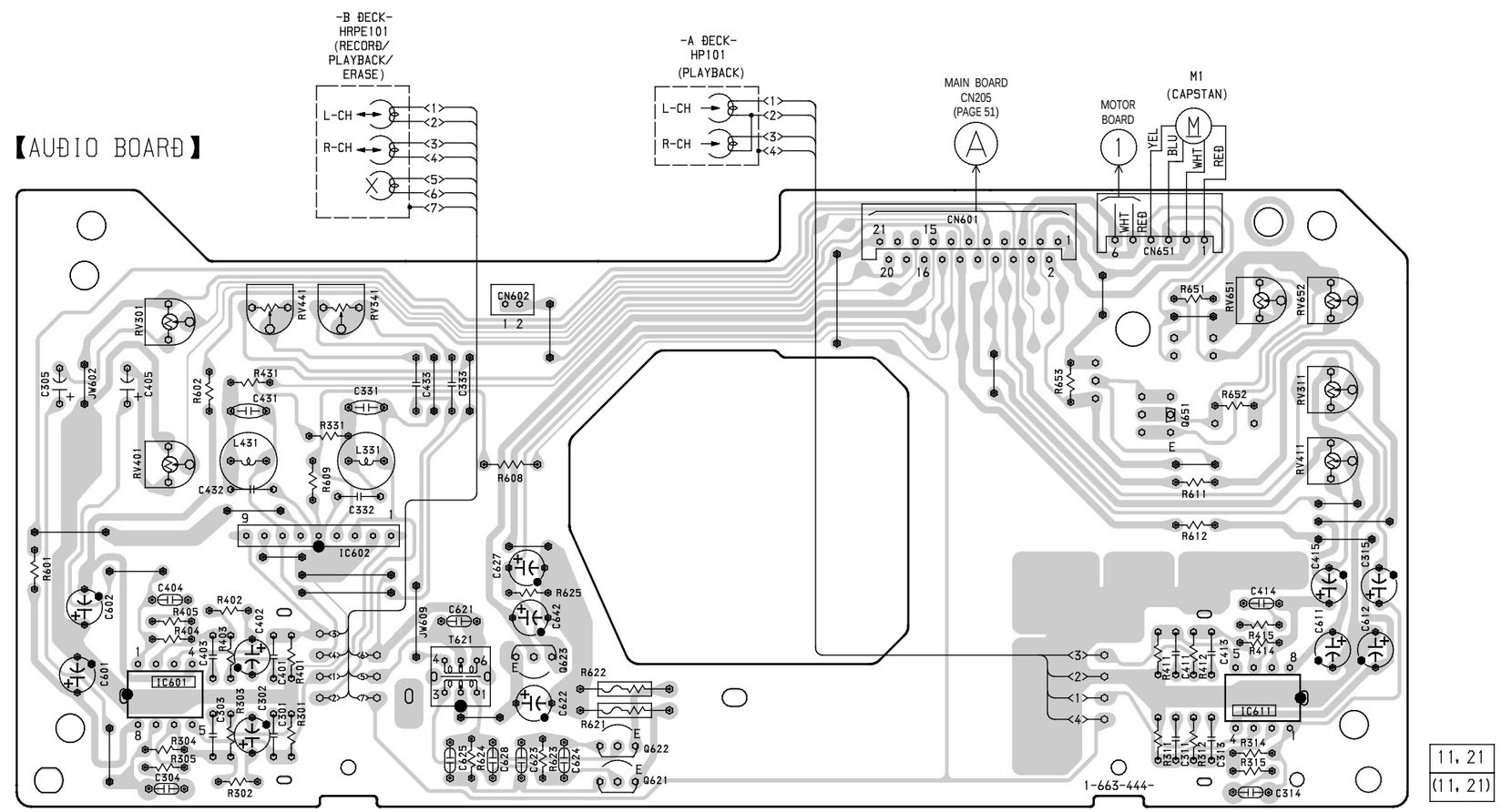


• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : STOP

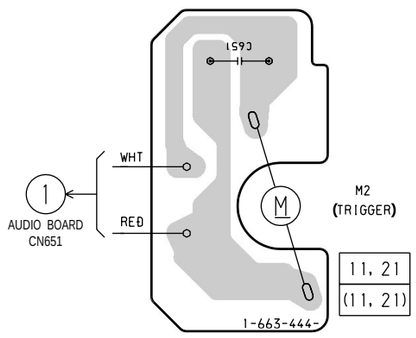
7-12. PRINTED WIRING BOARDS – TAPE DECK SECTION –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

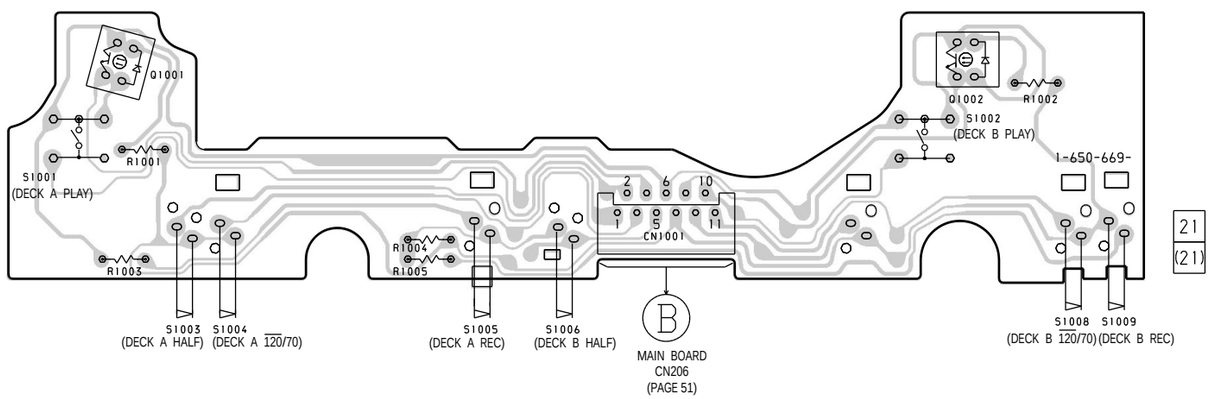
【AUDIO BOARD】



【MOTOR BOARD】



【LEAF SWITCH BOARD】



7-13. SCHEMATIC DIAGRAM – TAPE DECK SECTION –

• See page 38 for Note. • See page 80 for IC Block Diagrams.

【AUDIO BOARD】

【LEAF SWITCH BOARD】

IC611 PB EQ AMP

IC601 PB EQ AMP

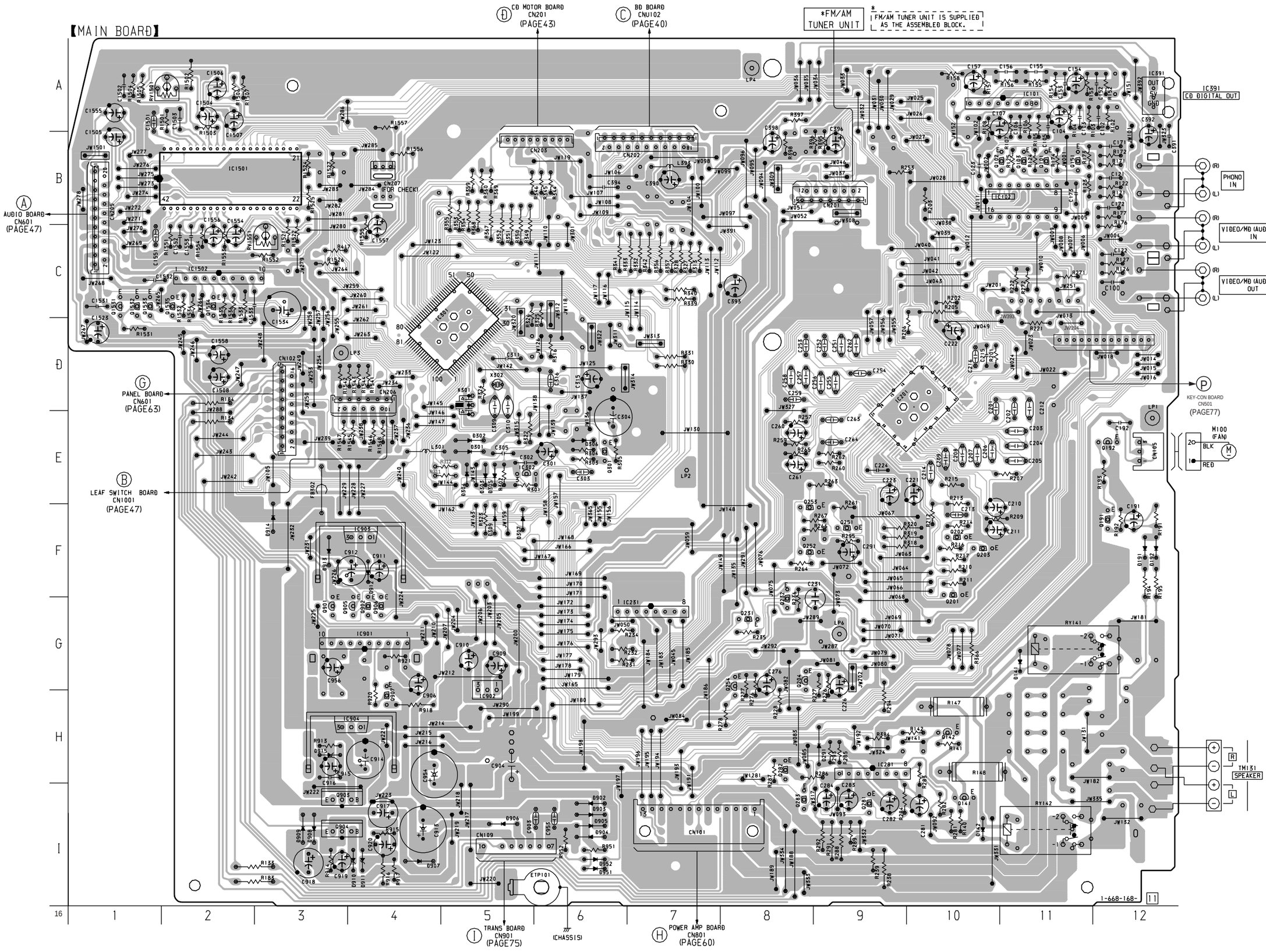
IC602 REC/PB SWITCHING

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : PLAYBACK
( ) : RECORD

7-14. PRINTED WIRING BOARD – MAIN SECTION –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

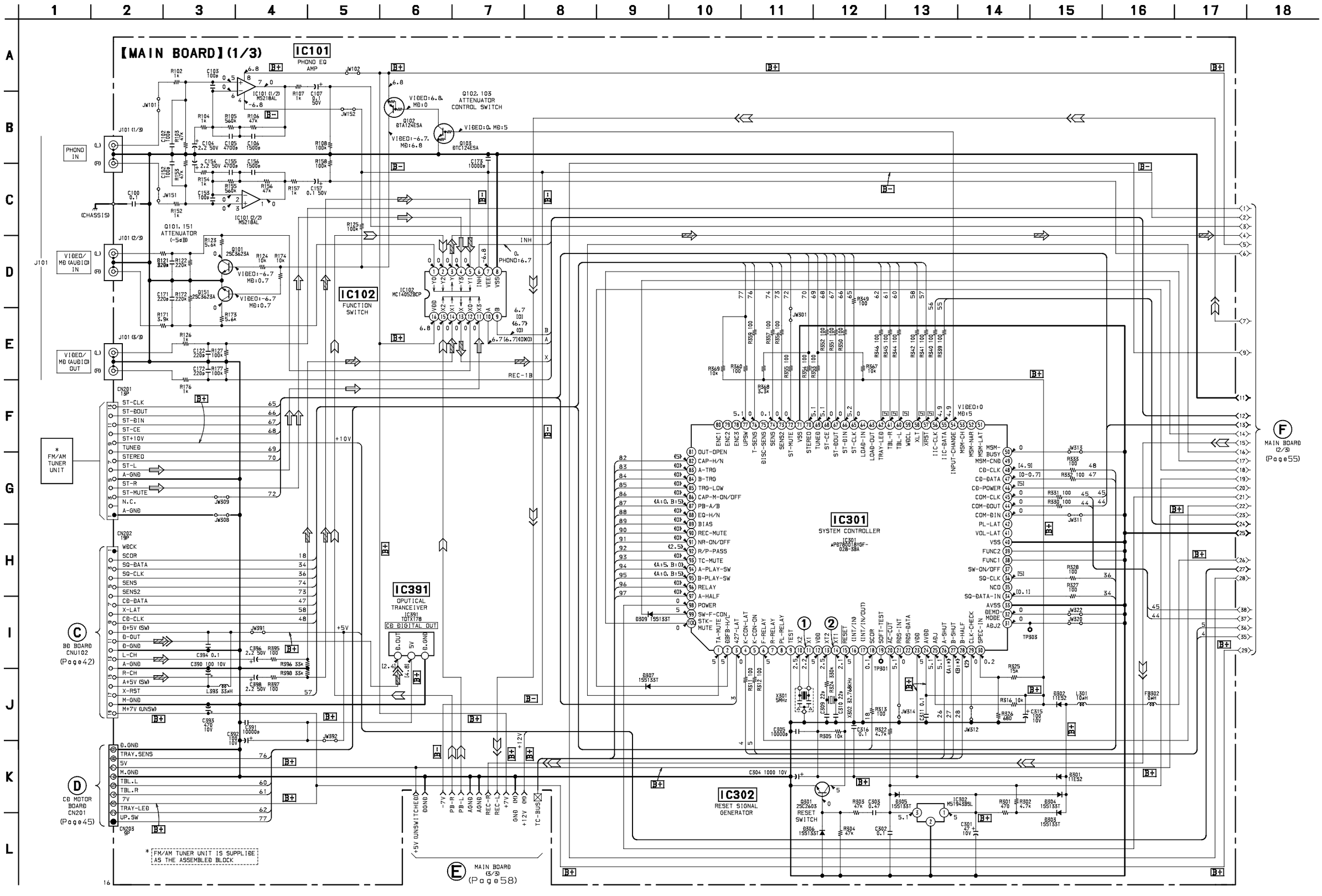


• Semiconductor Location

Ref. No.	Location
D141	G-11
D142	I-10
D191	F-12
D192	F-12
D291	H-9
D301	E-5
D302	E-5
D303	E-5
D304	E-5
D305	E-5
D306	E-6
D307	F-5
D309	F-5
D902	I-6
D903	I-6
D904	I-6
D905	I-6
D906	I-5
D907	I-4
D908	I-3
D909	I-3
D910	I-4
D911	I-4
D912	F-4
D913	F-3
D914	F-3
D915	H-3
D951	I-6
D952	I-6
IC101	A-11
IC102	B-11
IC201	D-10
IC231	G-7
IC281	H-9
IC301	D-5
IC302	E-5
IC391	A-12
IC901	G-4
IC902	G-5
IC903	F-4
IC904	H-4
IC1501	B-2
IC1502	C-2
Q101	B-11
Q102	B-11
Q103	B-11
Q141	I-10
Q142	H-10
Q151	B-11
Q191	F-12
Q192	E-12
Q201	F-10
Q202	F-10
Q203	F-10
Q204	G-8
Q231	G-8
Q232	G-8
Q251	F-9
Q252	F-8
Q253	F-8
Q254	G-8
Q281	I-9
Q282	H-8
Q283	I-8
Q301	E-6
Q901	G-3
Q902	G-4
Q903	I-3
Q904	I-3
Q905	G-4
Q906	G-4
Q907	H-4
Q1531	C-1
Q1532	C-1
Q1533	C-1
Q1534	C-2
Q1535	C-2

7-15. SCHEMATIC DIAGRAM – MAIN SECTION (1/3) –

• See page 38 for Note. • See page 77 for Waveforms.

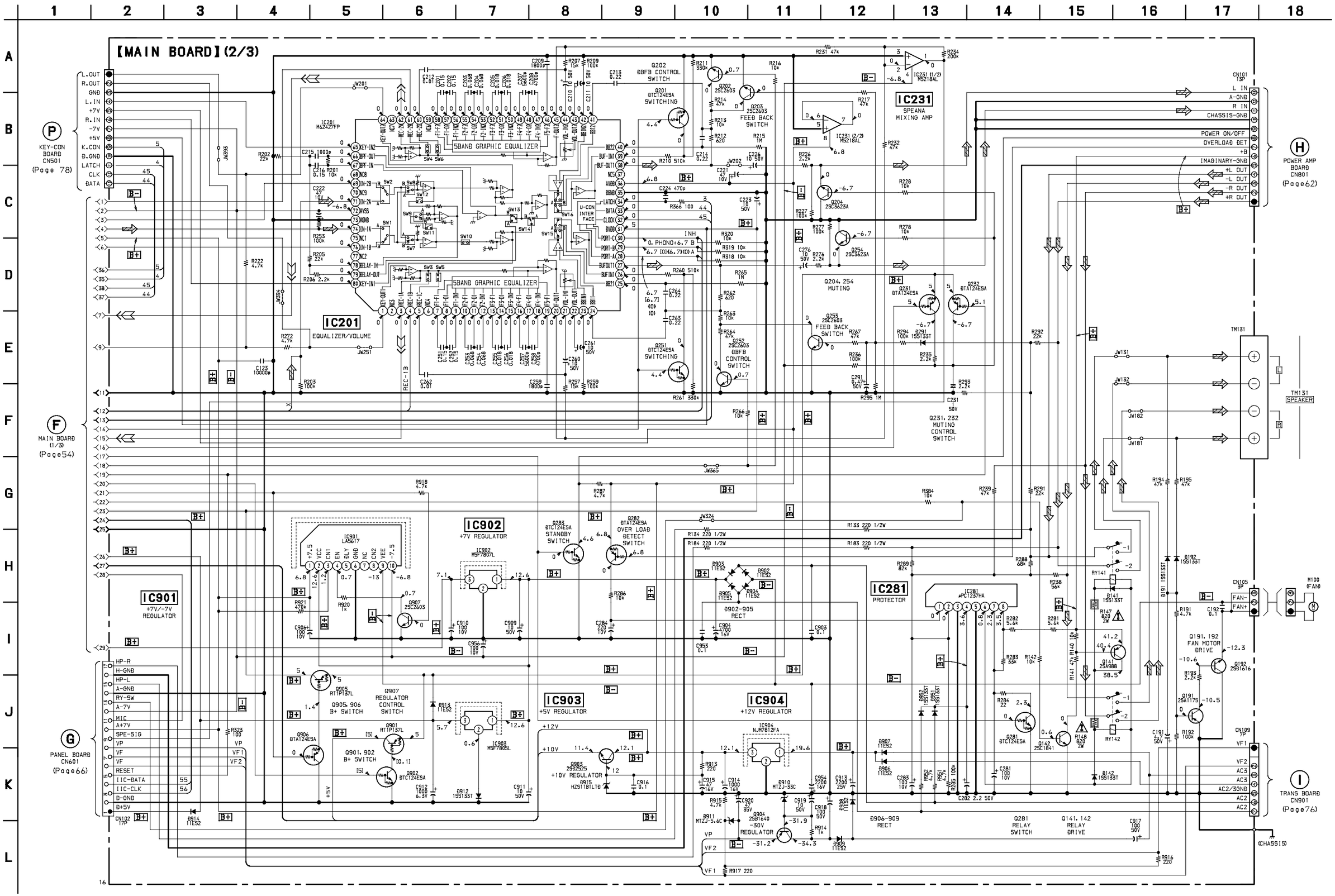


• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM
[ ] : CD

( ) : VIDEO/MD (AUDIO)
《 》: PLAYBACK
∗ : Impossible to measure

7-16. SCHEMATIC DIAGRAM – MAIN SECTION (2/3) –

• See page 38 for Note. • See page 80 for IC Block Diagrams.

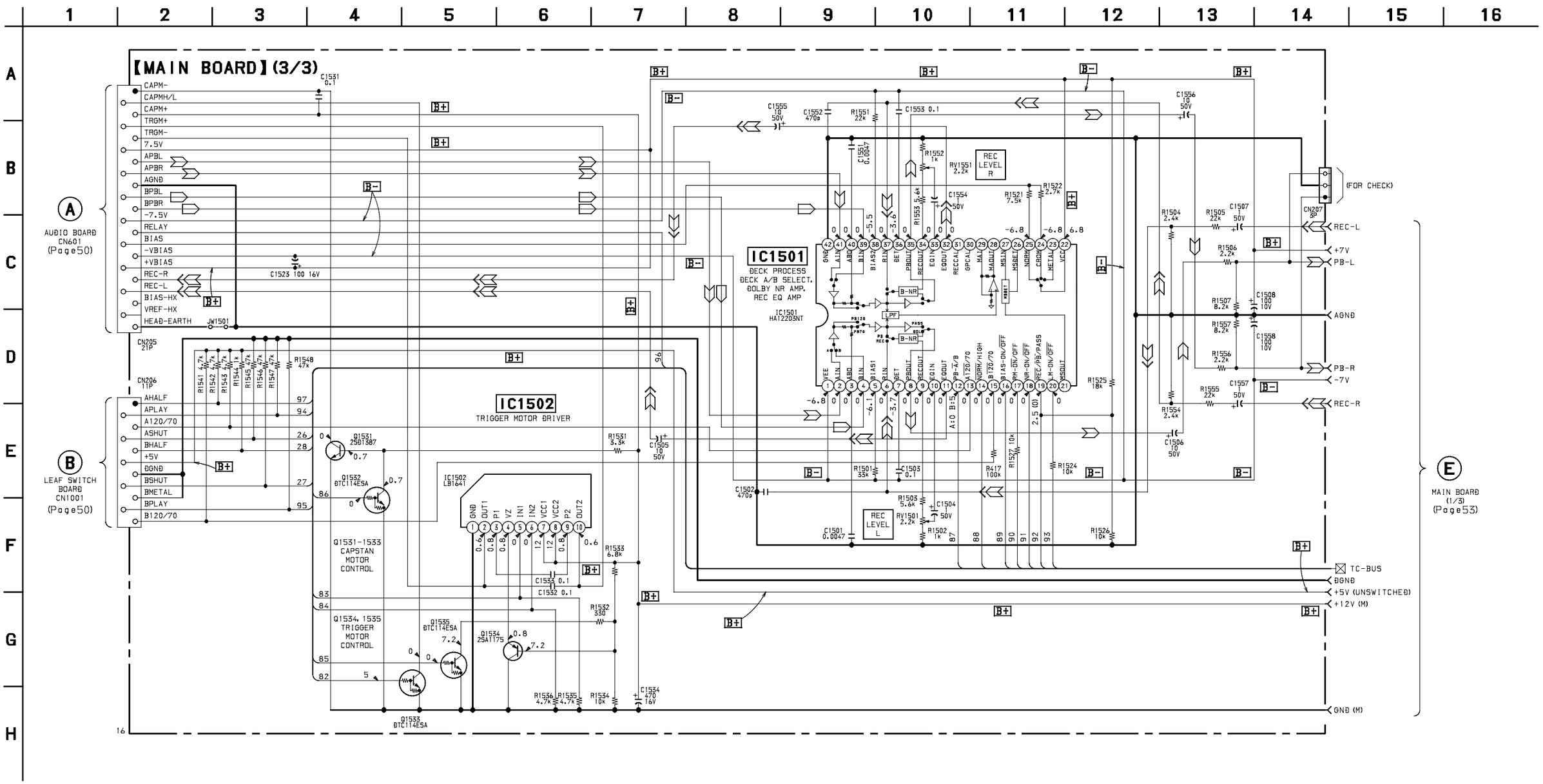


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  [ ] : CD
  ( ) : VIDEO/MD (AUDIO)
  ⟨⟨ ⟩⟩ : PLAYBACK

7-17. SCHEMATIC DIAGRAM – MAIN SECTION (3/3) –

• See page 38 for Note. • See page 80 for IC Block Diagrams.



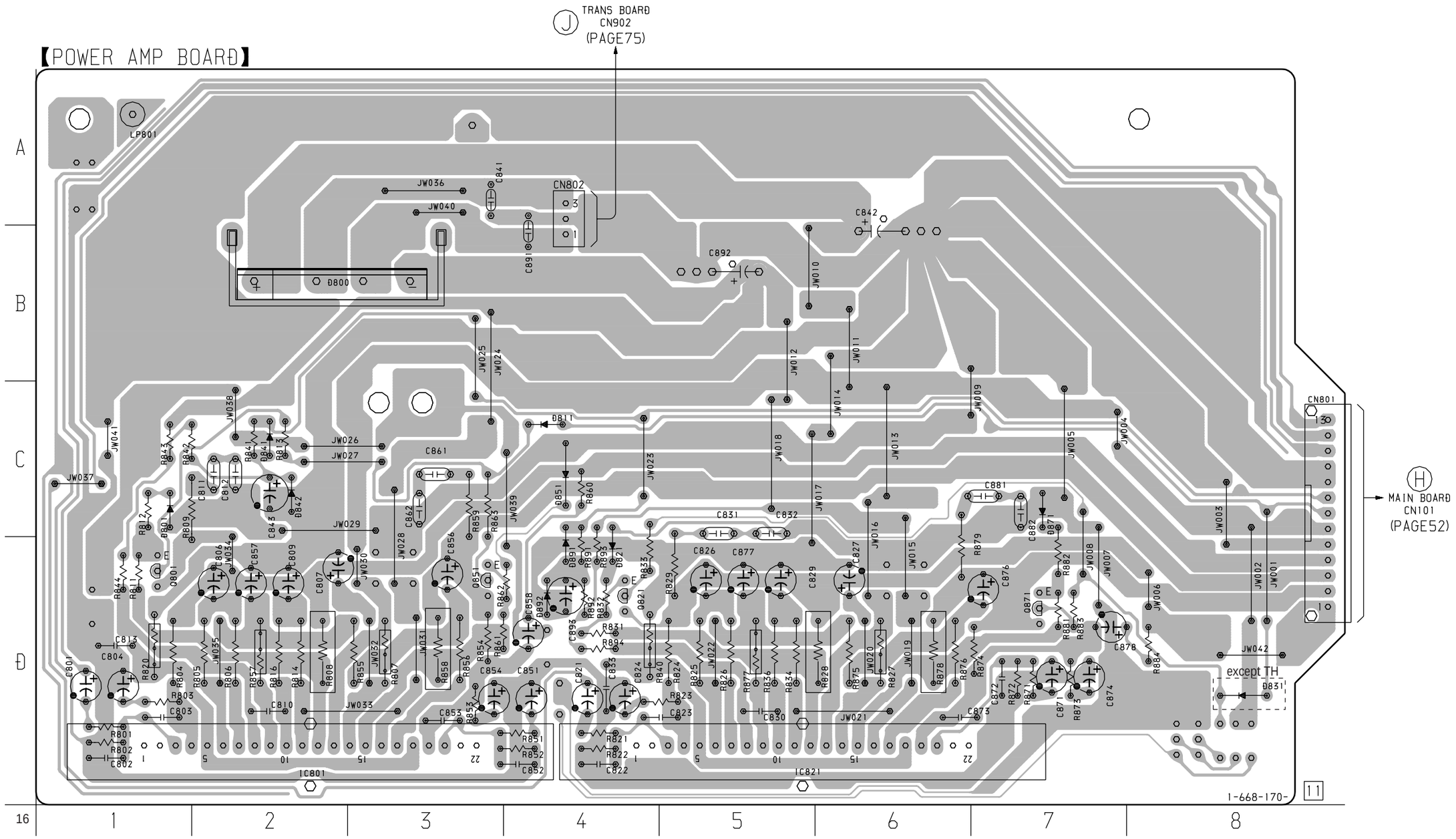
• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark : PLAYBACK
( ) : RECORD

7-18. PRINTED WIRING BOARD – POWER AMP SECTION –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

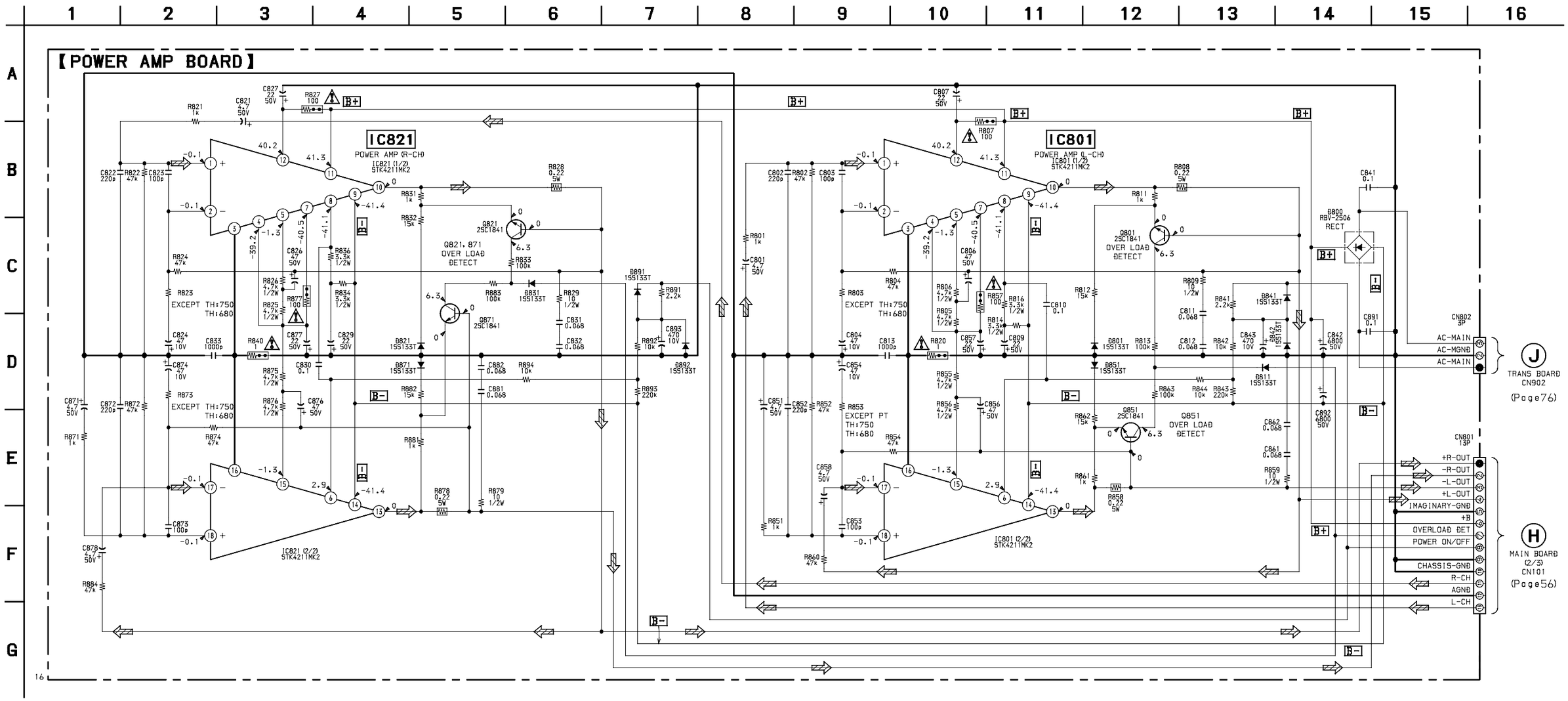
• Semiconductor Location

Ref. No.	Location
D800	B-2
D801	C-1
D811	C-4
D821	D-4
D831	D-8
D841	C-2
D842	C-2
D851	C-4
D871	C-7
D891	D-4
D892	D-4
IC801	D-2
IC821	D-5
Q801	D-1
Q821	D-4
Q851	D-3
Q871	D-7



7-19. SCHEMATIC DIAGRAM – POWER AMP SECTION –

• See page 38 for Note.



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

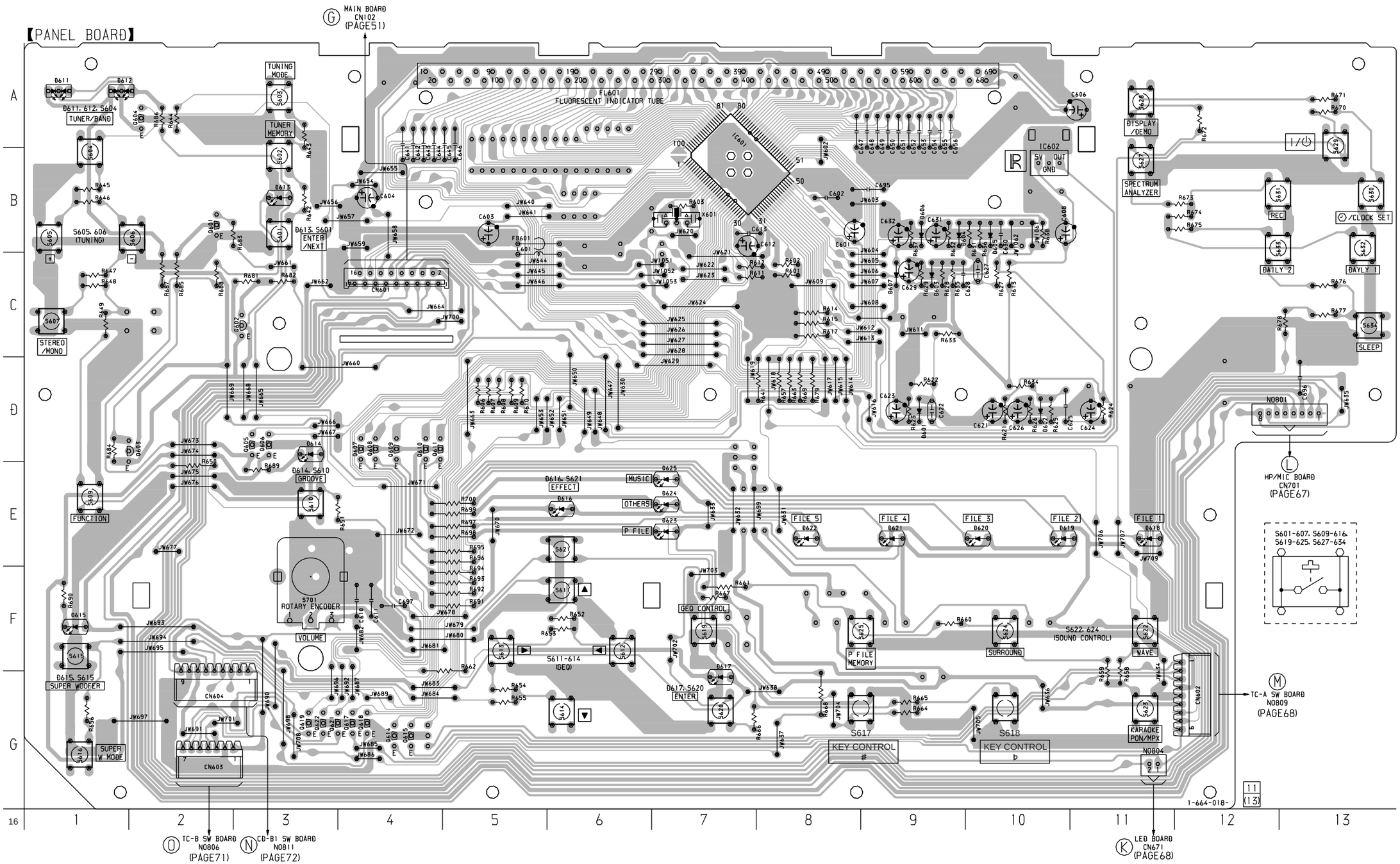
• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM

7-20. PRINTED WIRING BOARD – PANEL SECTION (1/3) –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

• Semiconductor Location

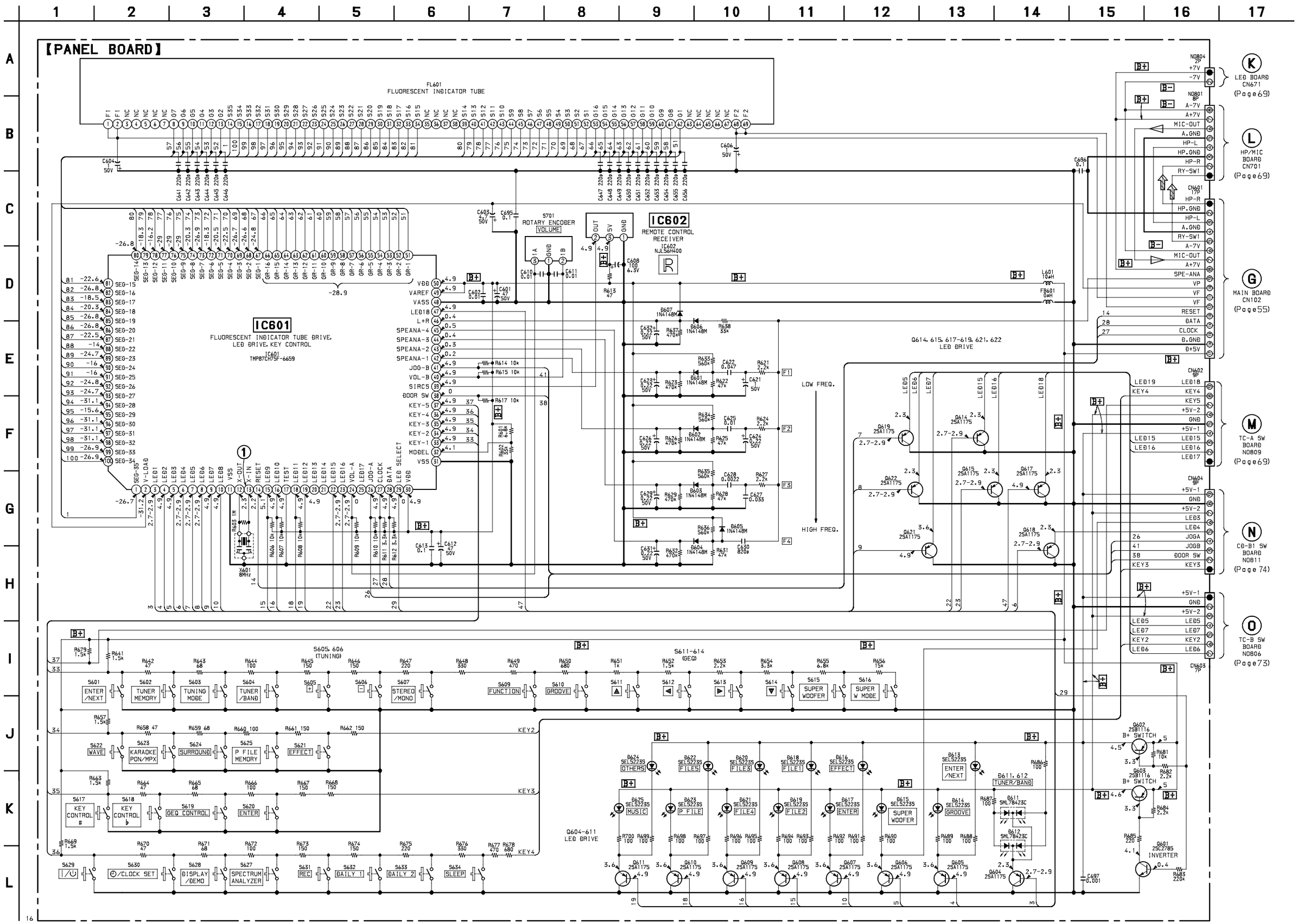
Ref. No.	Location
D601	D-9
D602	D-10
D603	C-9
D604	B-9
D605	B-10
D606	B-9
D607	C-9
D611	A-1
D612	A-1
D613	B-3
D614	D-3
D615	F-1
D616	E-6
D617	G-7
D618	E-11
D619	E-10
D620	E-10
D621	E-9
D622	E-8
D623	E-7
D624	E-7
D625	E-7
IC601	B-7
IC602	B-10
Q601	B-2
Q602	C-3
Q603	D-2
Q604	A-2
Q605	D-3
Q606	D-3
Q607	D-4
Q608	D-4
Q609	D-4
Q610	D-4
Q611	D-4
Q614	G-4
Q615	G-4
Q617	G-4
Q618	G-4
Q619	G-3
Q621	G-3
Q622	G-3



7-21. SCHEMATIC DIAGRAM – PANEL SECTION (1/3) –

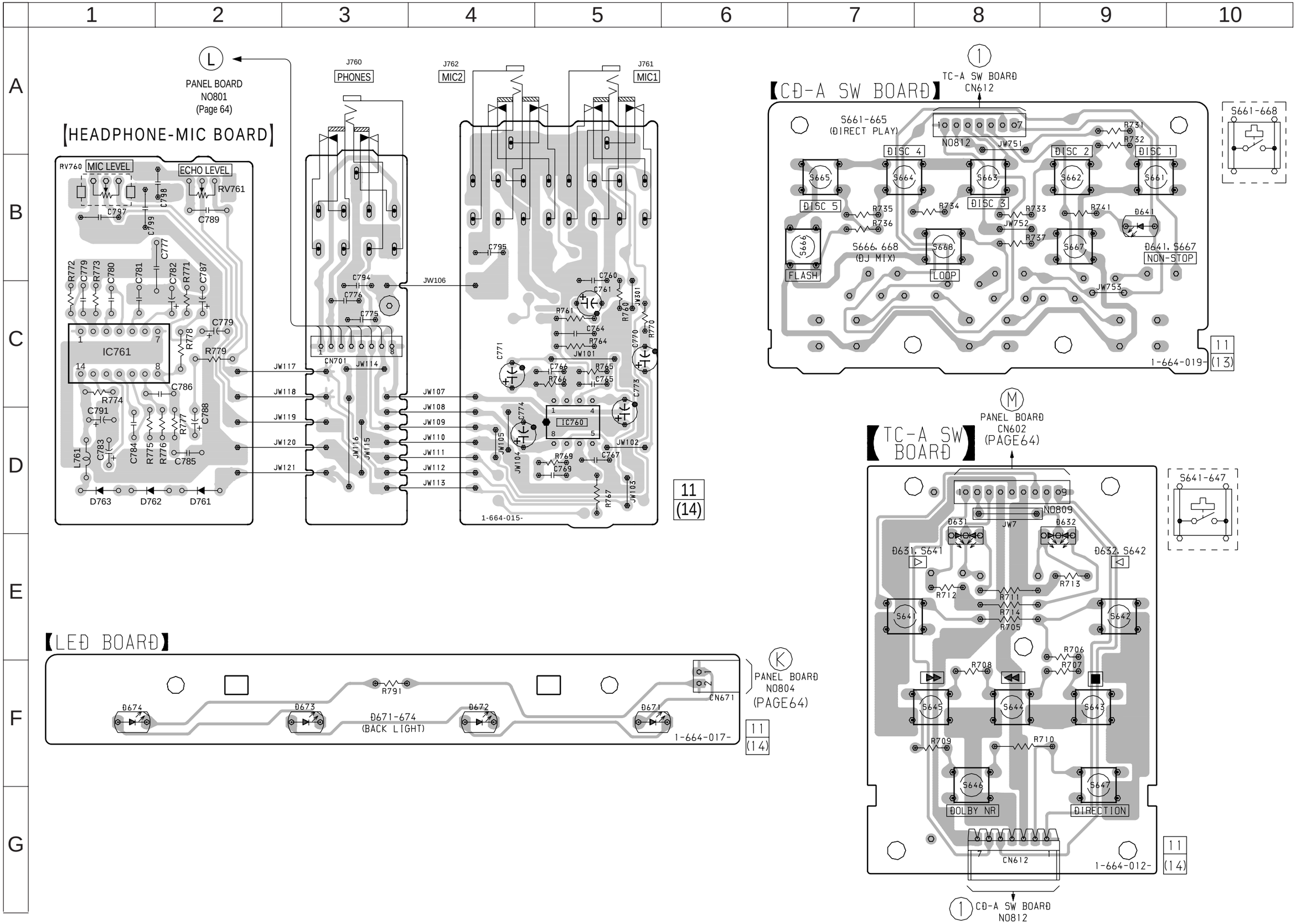
• See page 38 for Note.

• Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : FM



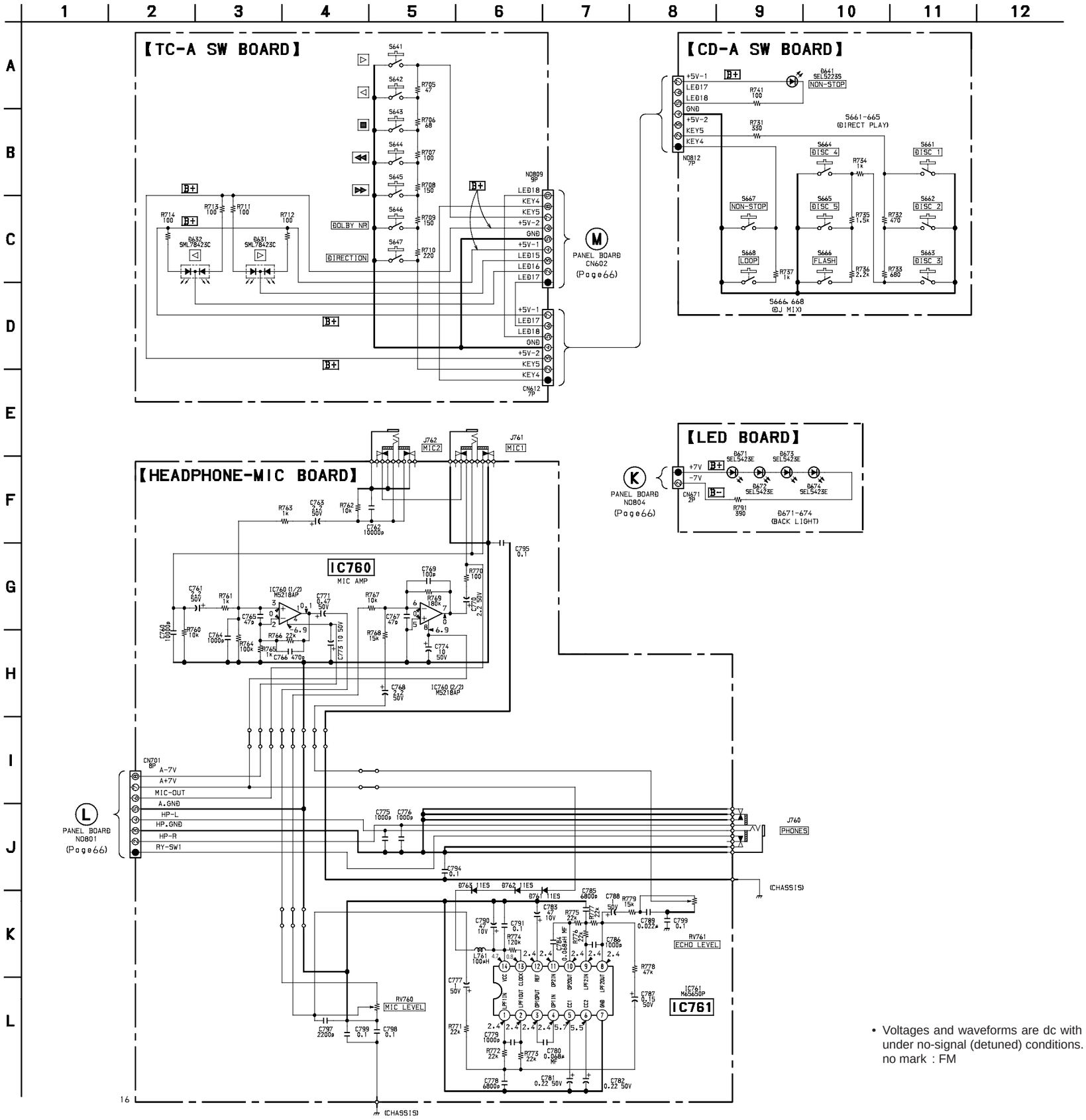
7-22. PRINTED WIRING BOARDS – PANEL SECTION (2/3) –

• See page 37 for Circuit Boards Location. • See page 38 for Note.



7-23. SCHEMATIC DIAGRAM – PANEL SECTION (2/3) –

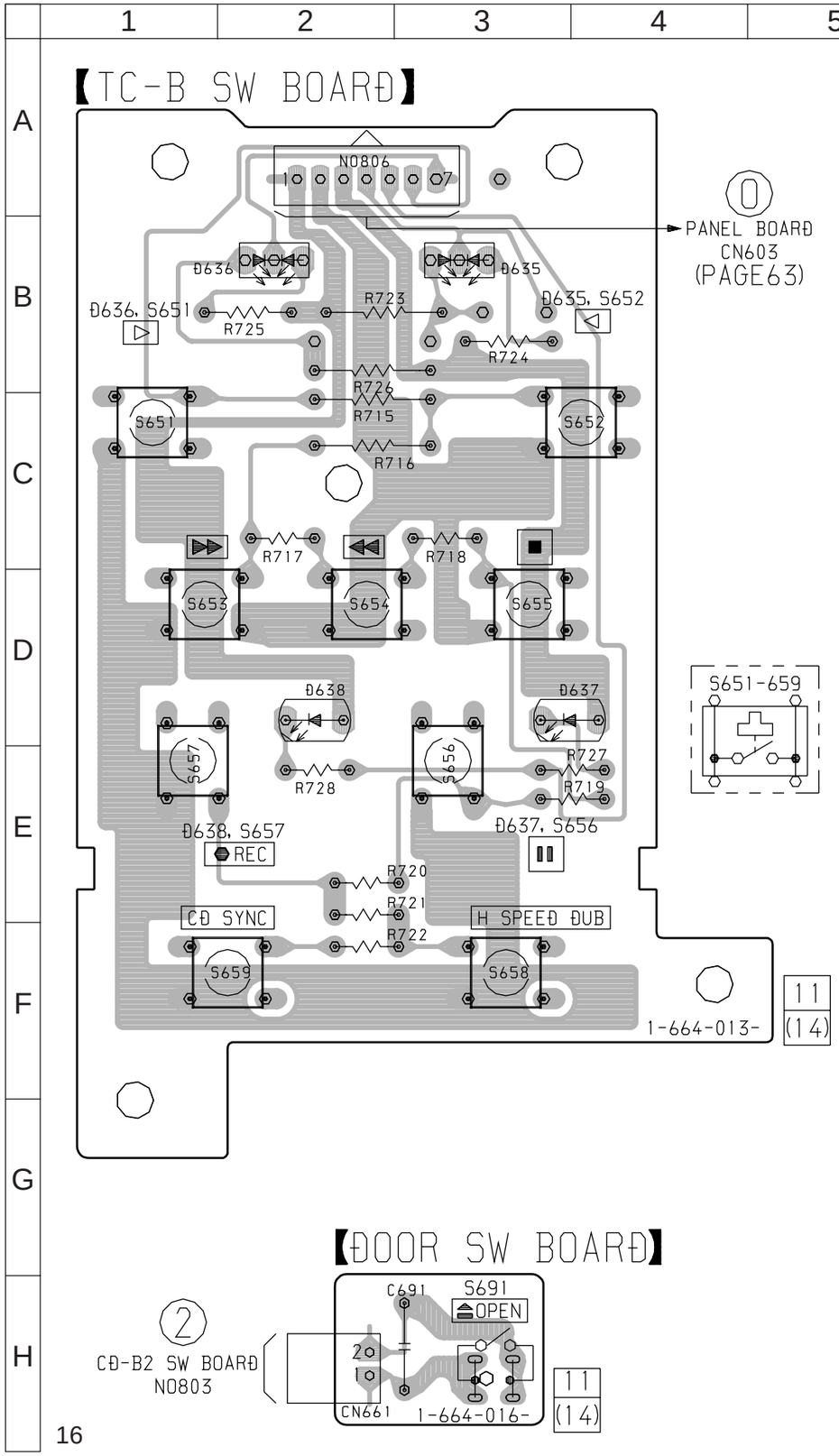
• See page 38 for Note.

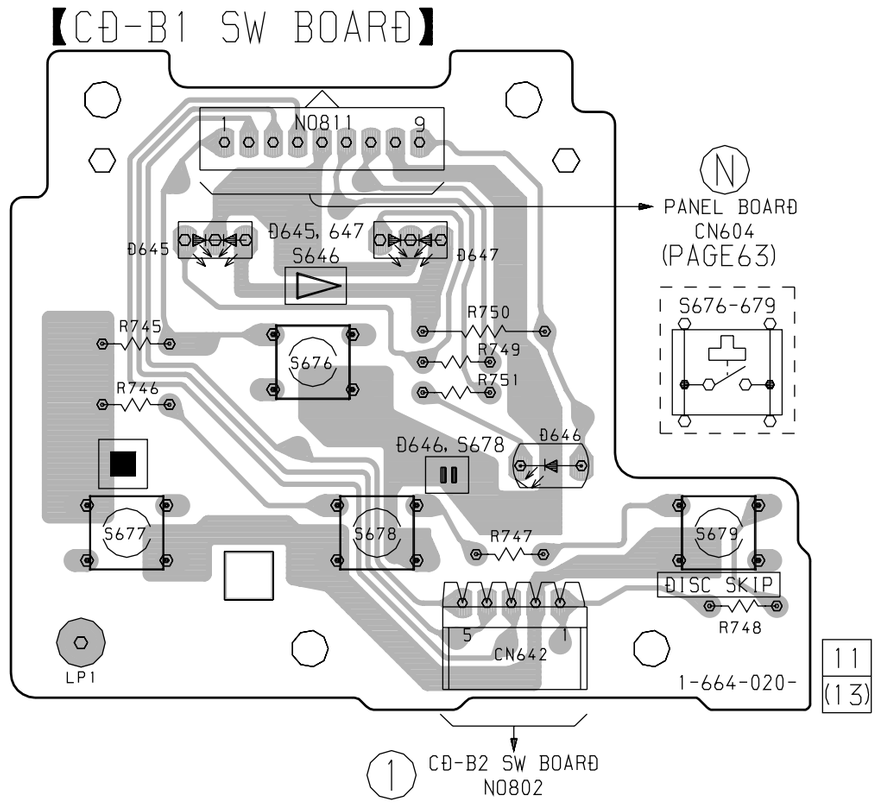


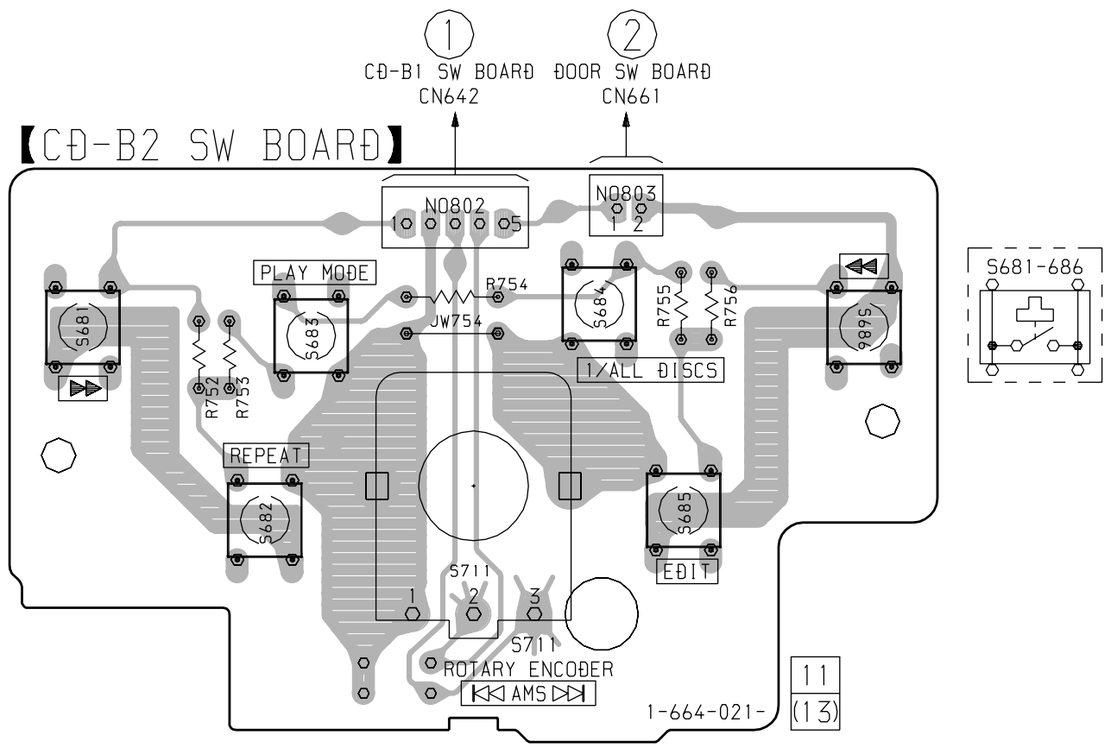
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM

7-24. PRINTED WIRING BOARDS – PANEL SECTION (3/3) –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

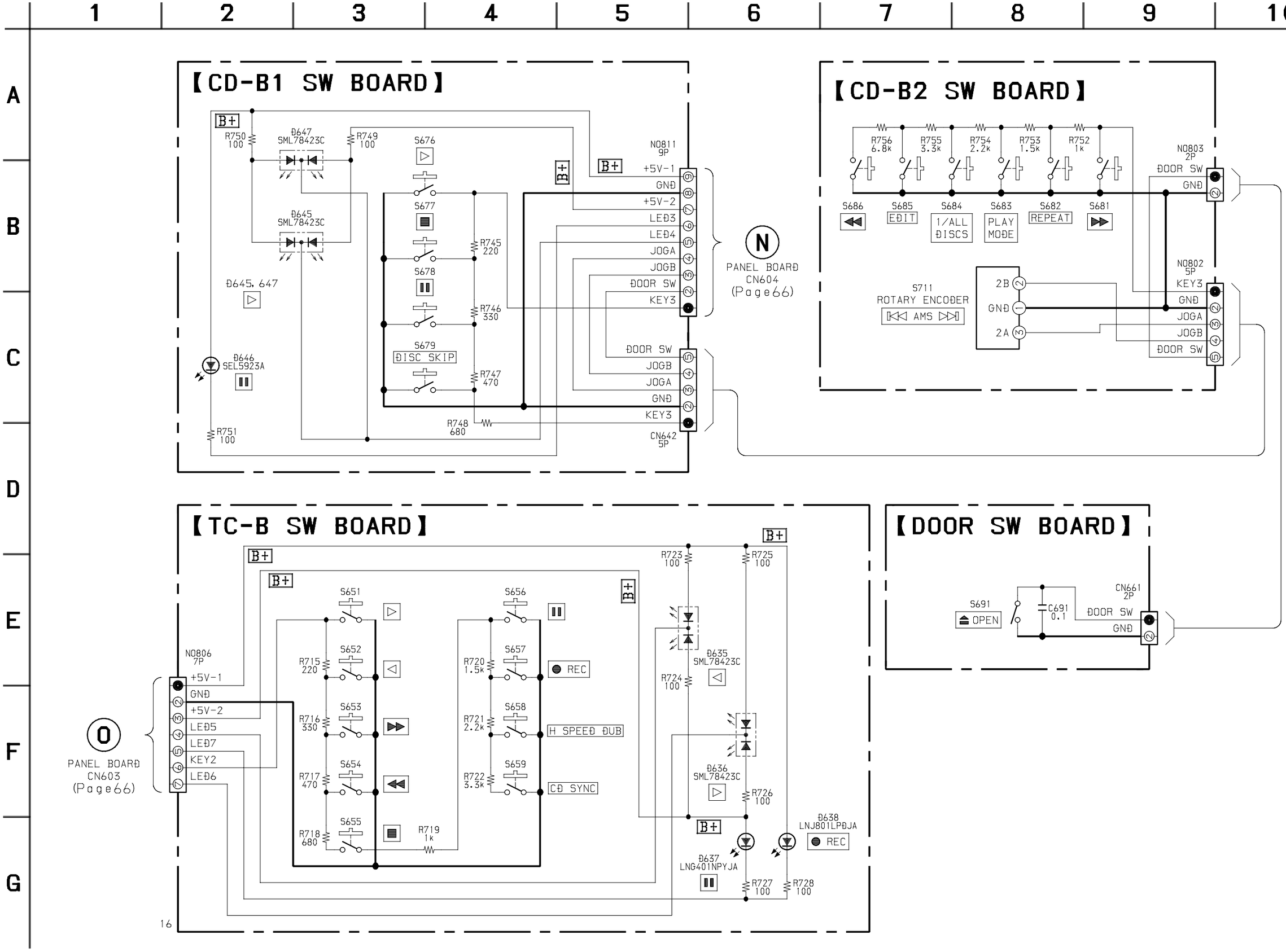






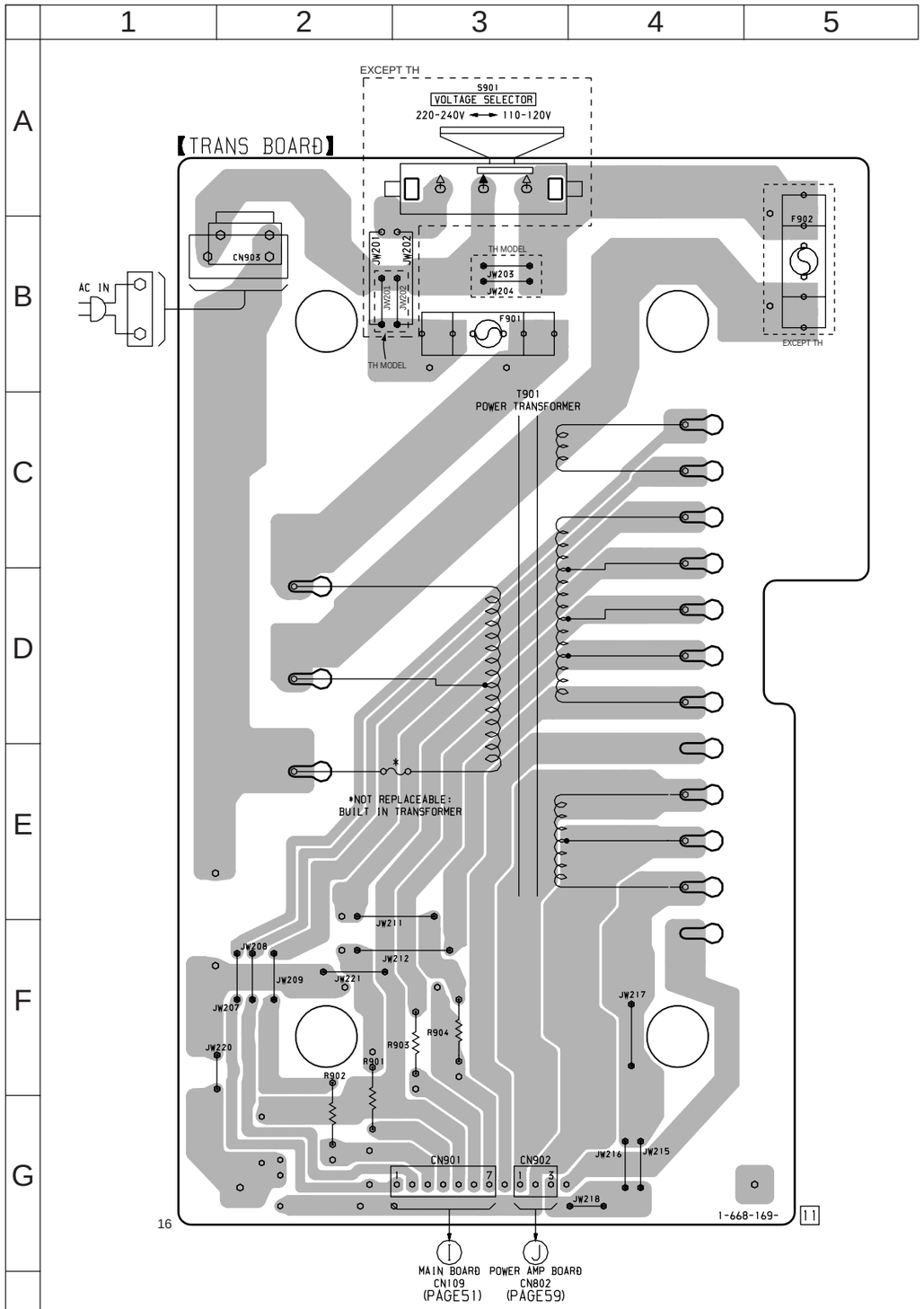
7-25. SCHEMATIC DIAGRAM – PANEL SECTION (3/3) –

• See page 38 for Note.



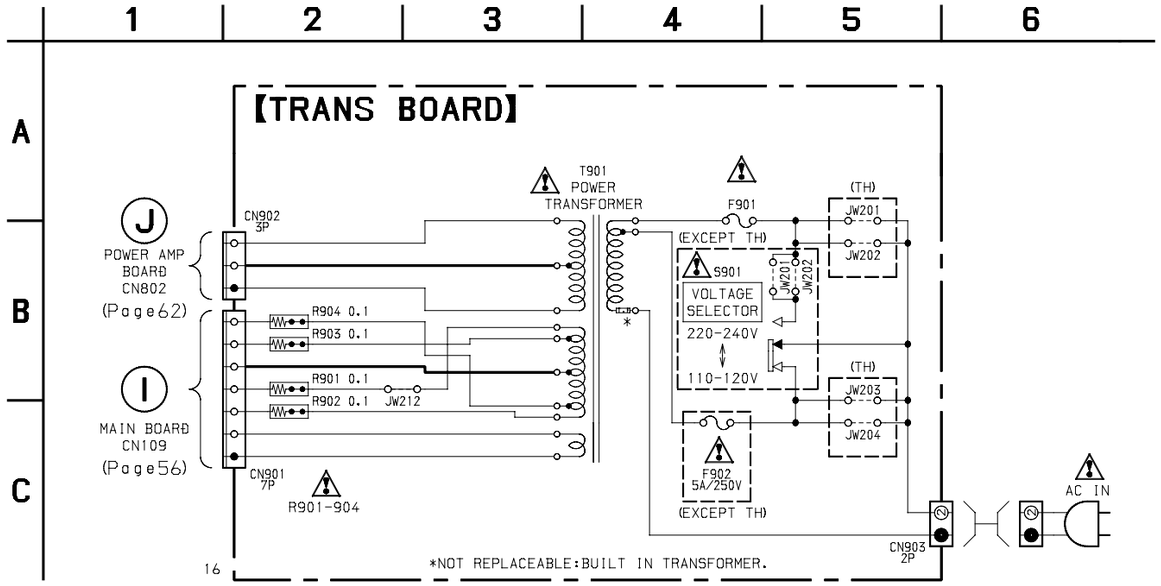
7-26. PRINTED WIRING BOARD – POWER SUPPLY Section –

• See page 37 for Circuit Boards Location. • See page 38 for Note.



7-27. SCHEMATIC DIAGRAM – POWER SUPPLY SECTION –

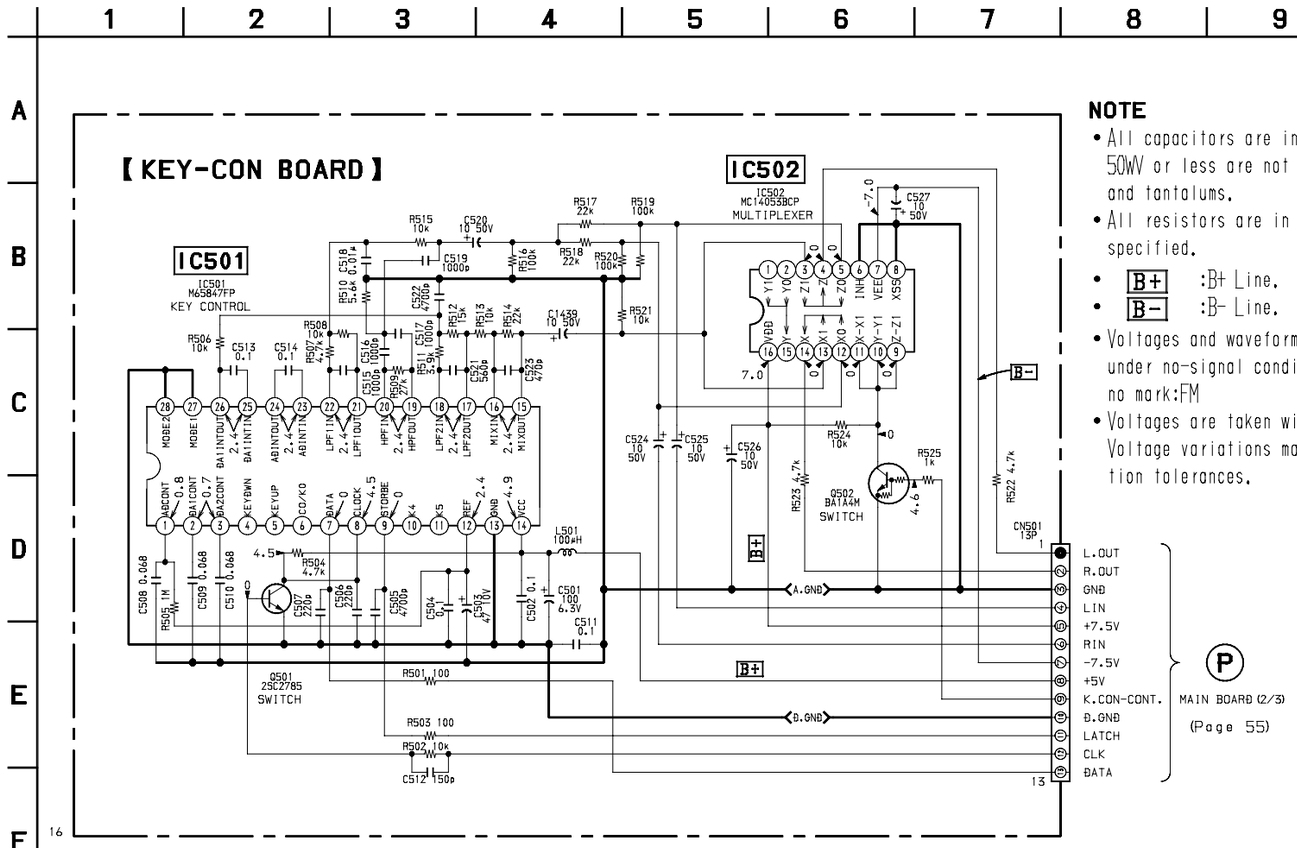
• See page 38 for Note.



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

7-28. SCHEMATIC DIAGRAM – KEY CONTROL SECTION –

• See page 38 for Note.

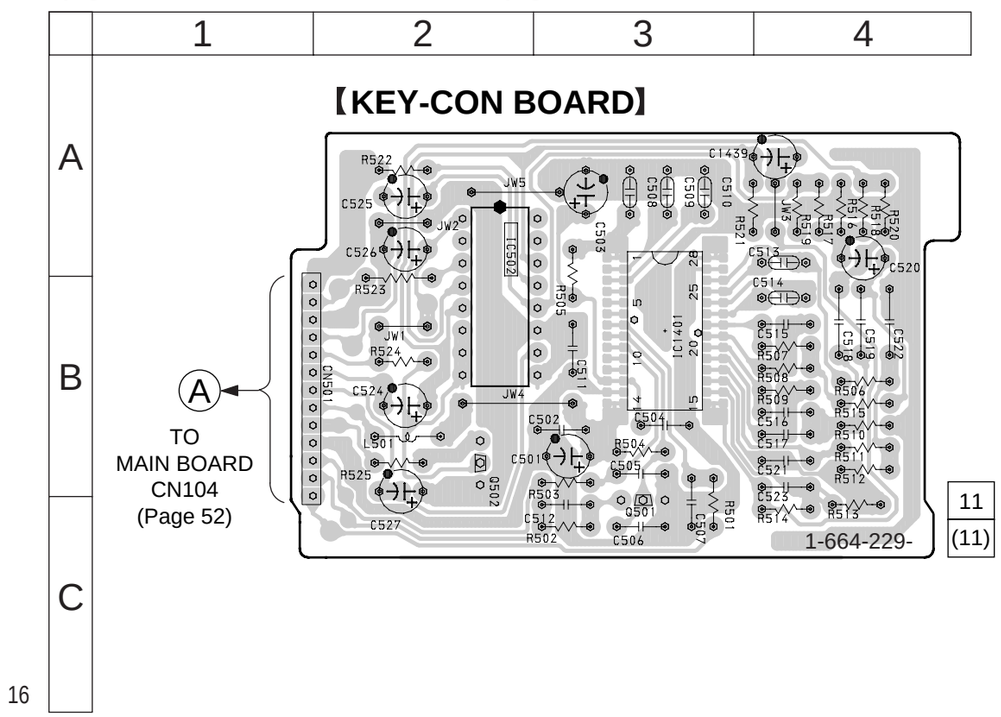


NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- B+ :B+ Line.
- B- :B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: FM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

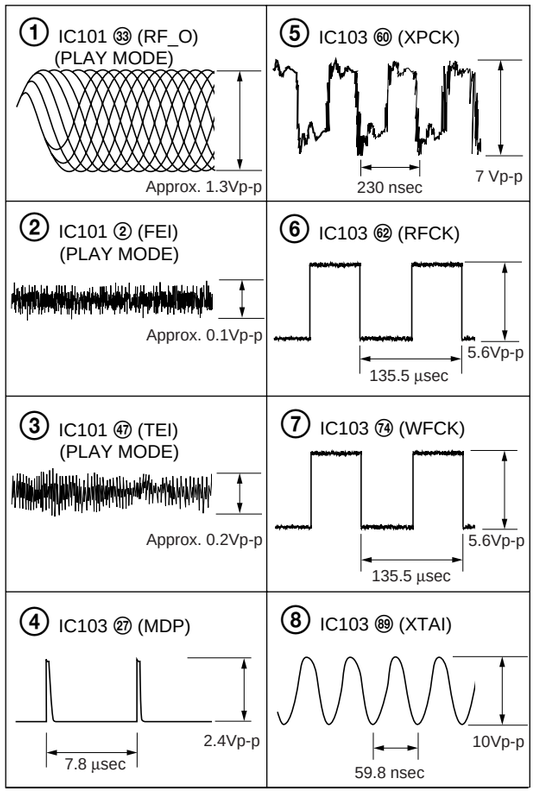
7-29. PRINTED WIRING BOARD – KEY CONTROL SECTION –

• See page 37 for Circuit Boards Location. • See page 38 for Note.

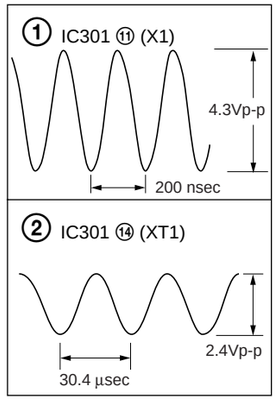


7-30. WAVEFORMS

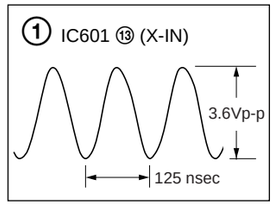
– CD SECTION (1/2) –



– MAIN SECTION (1/3) –



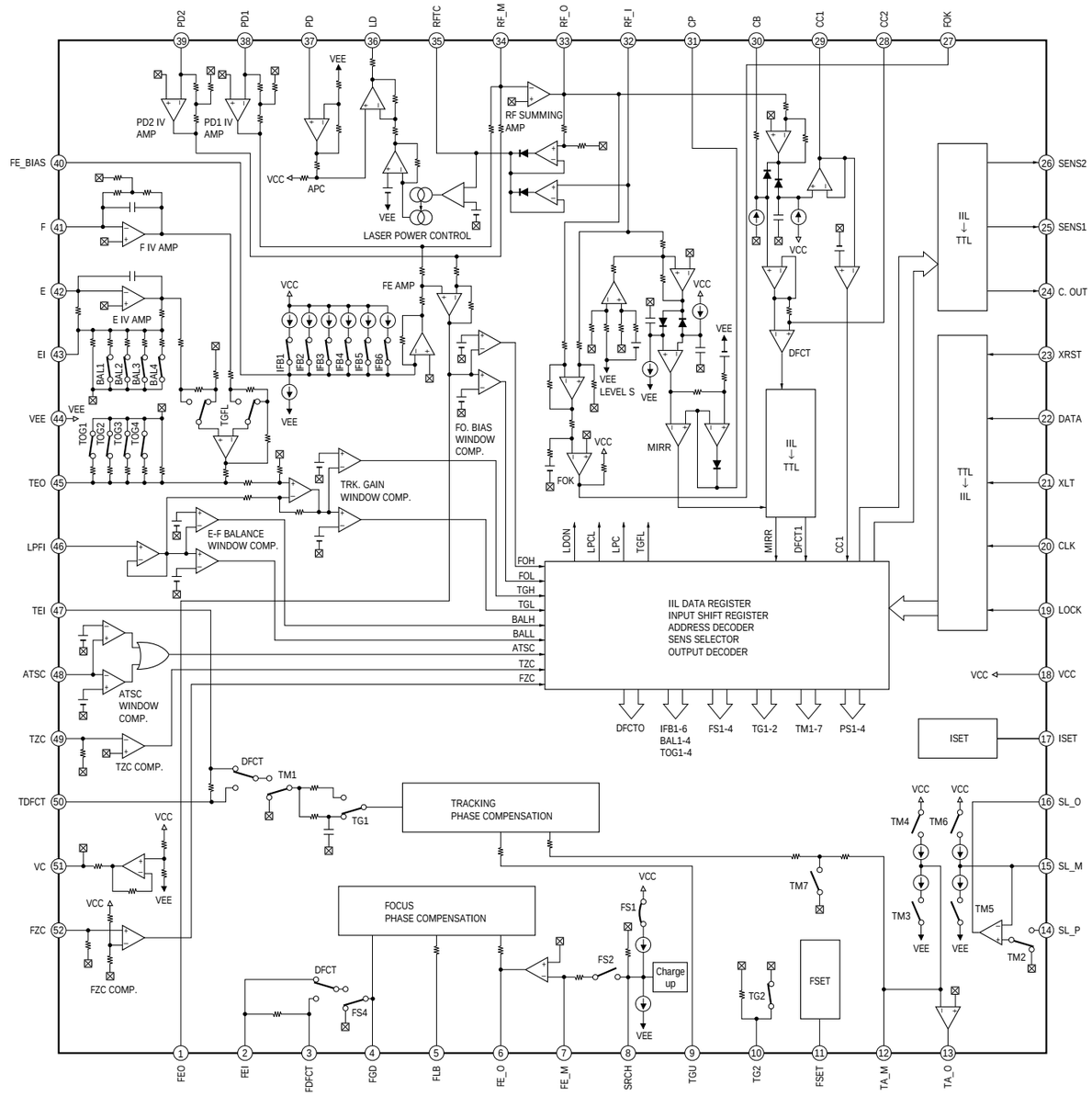
– PANEL SECTION (1/3) –



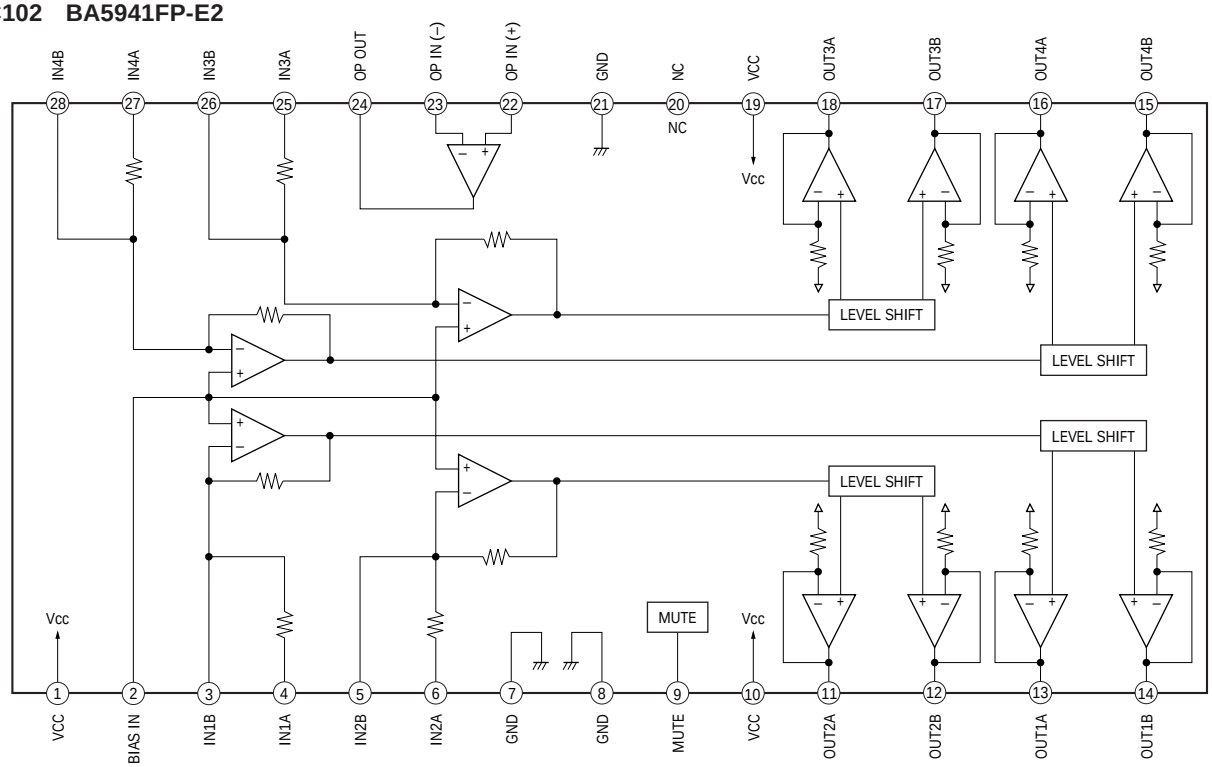
7-31. IC BLOCK DIAGRAMS

– BD SECTION –

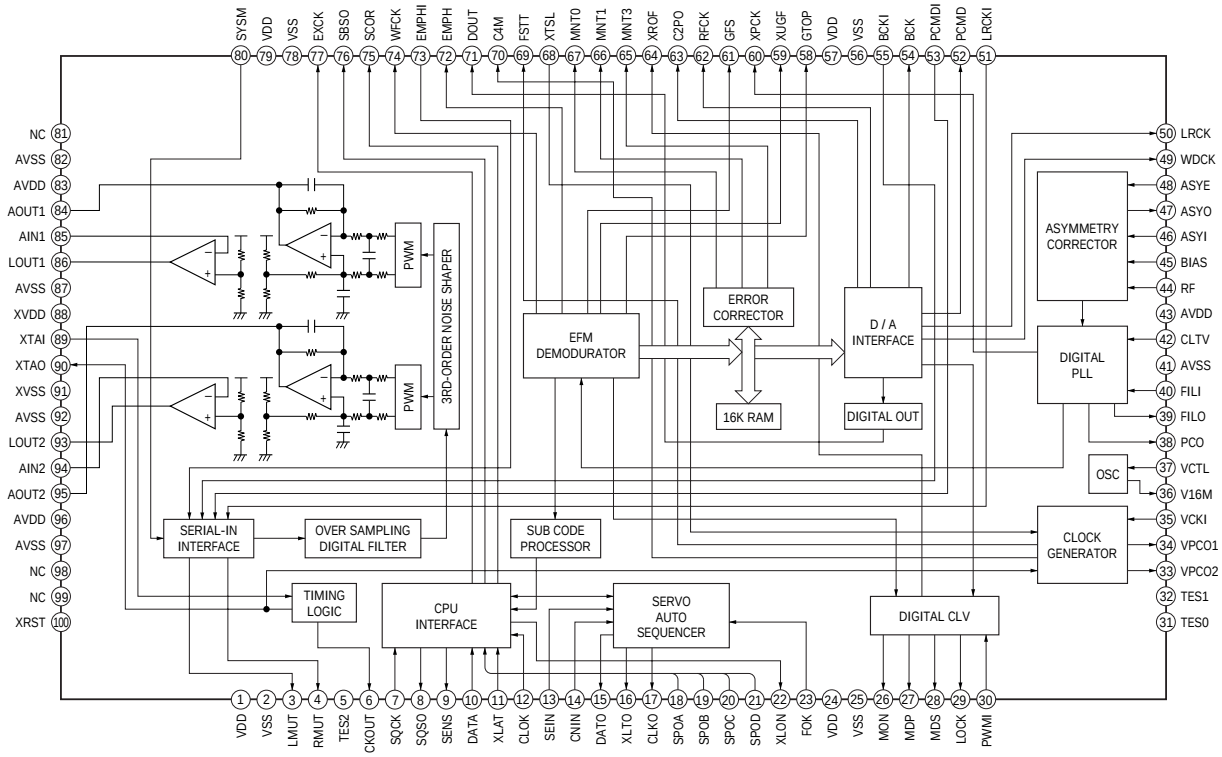
IC101 CXA1992AR



IC102 BA5941FP-E2

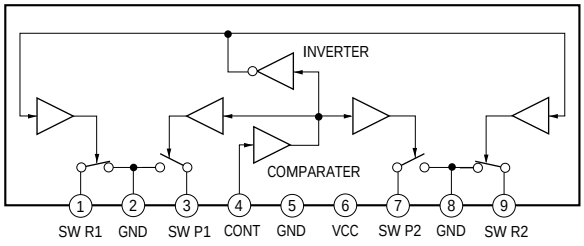


IC103 CXD2591Q



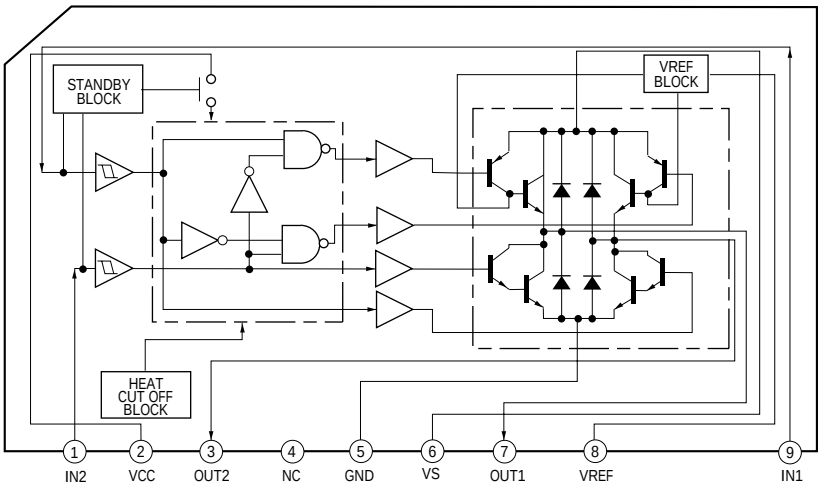
– AUDIO SECTION –

IC602 µPC1330HA



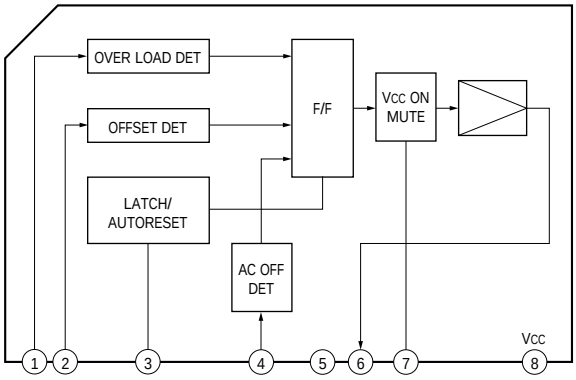
– CD MOTOR SECTION –

IC201 TA8409S

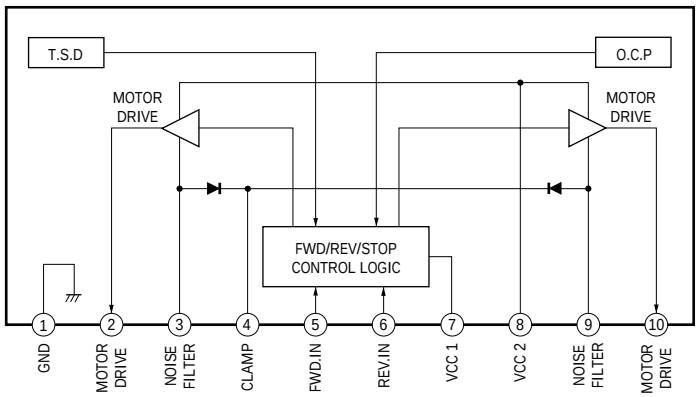


– MAIN SECTION –

IC281 µPC1237HA



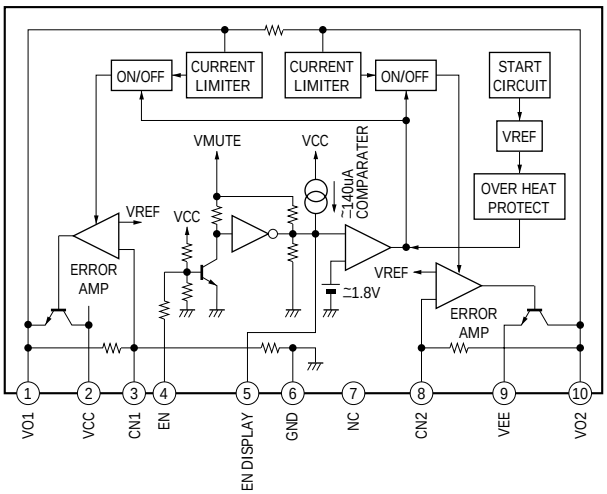
IC1502 LB1641

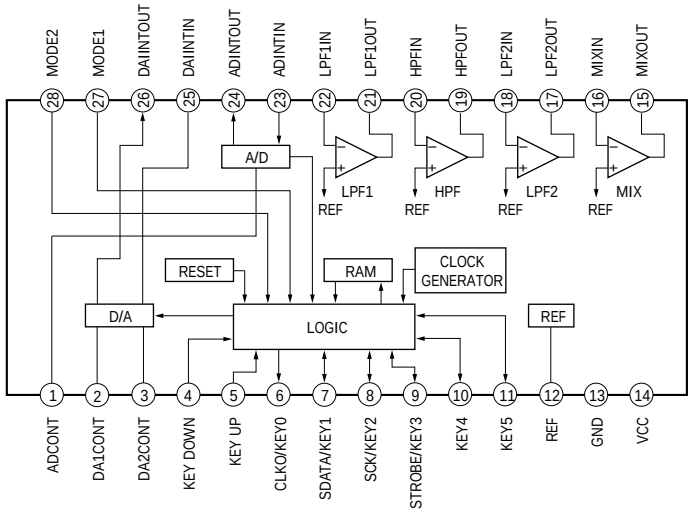


– KEY-CON SECTION –

IC501 M65847FP-TP

IC901 LA5617





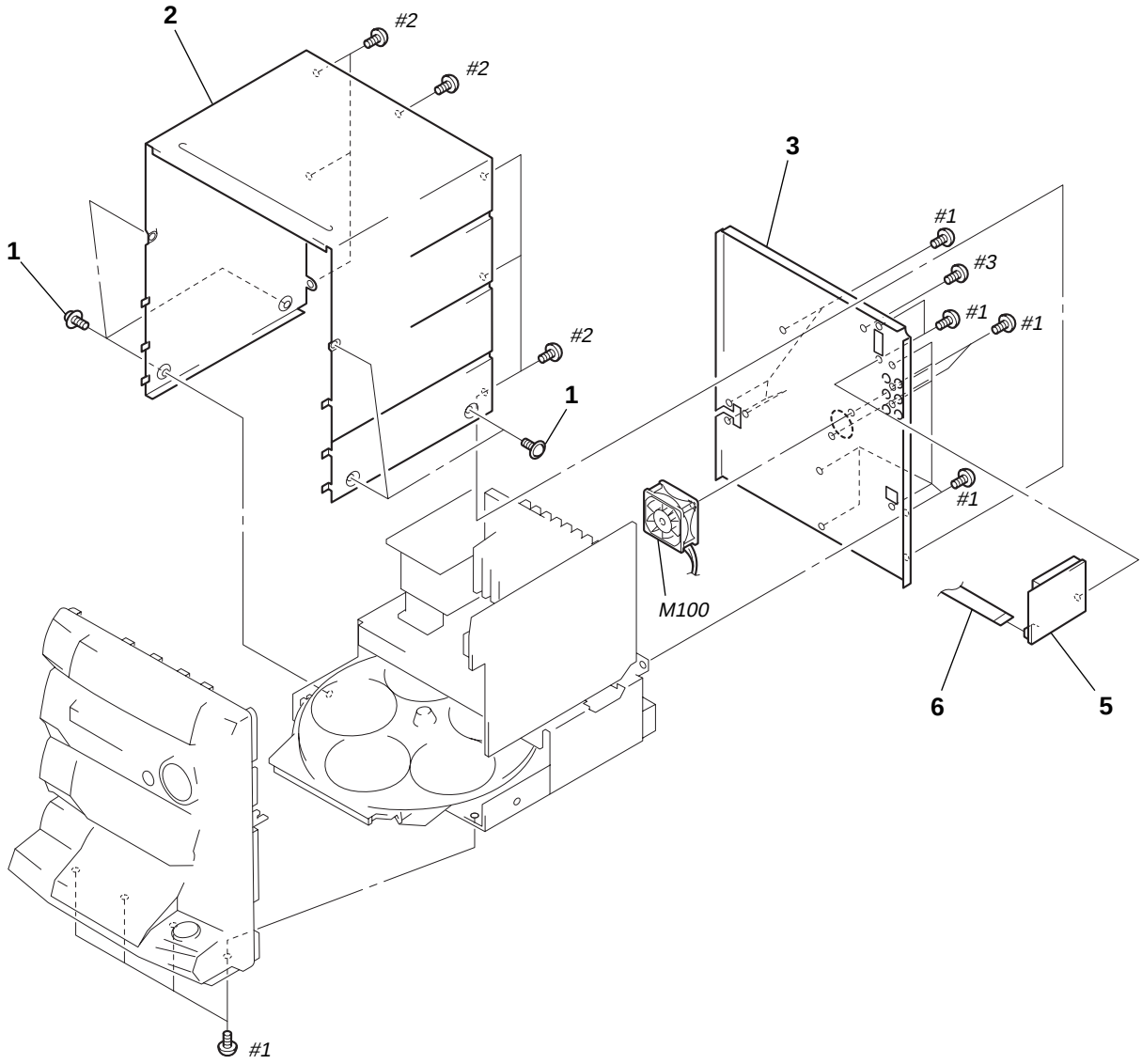
SECTION 8
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  IA : Indonesian
  TH : Thai
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

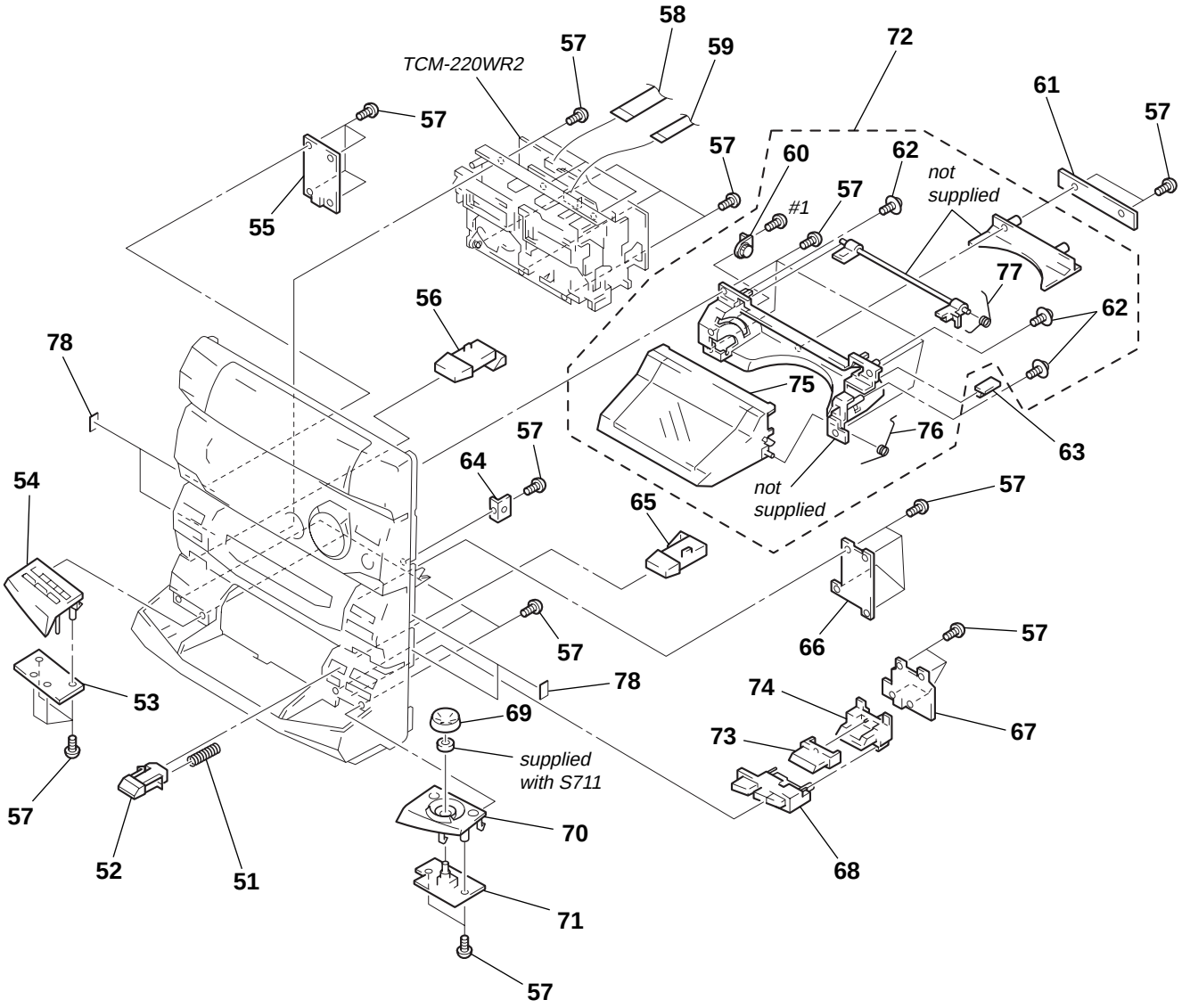
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

8-1. CASE, REAR PANEL SECTION



Ref. No.	Part No.	Description	Remarks
1	3-363-099-01	SCREW (CASE 3 TP2)	
* 2	4-987-052-91	CASE	
* 3	4-996-413-11	PANEL, BACK (SP, MY)	
* 3	4-996-413-61	PANEL, BACK (E, IA)	
* 3	4-996-413-71	PANEL, BACK (EA)	
* 3	4-996-413-91	PANEL, BACK (TH)	
5	1-233-545-11	ENCAPSULATED COMPONENT (FM/AM TUNER UNIT)	
6	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)	
M100	1-763-072-11	FAN, D.C.	

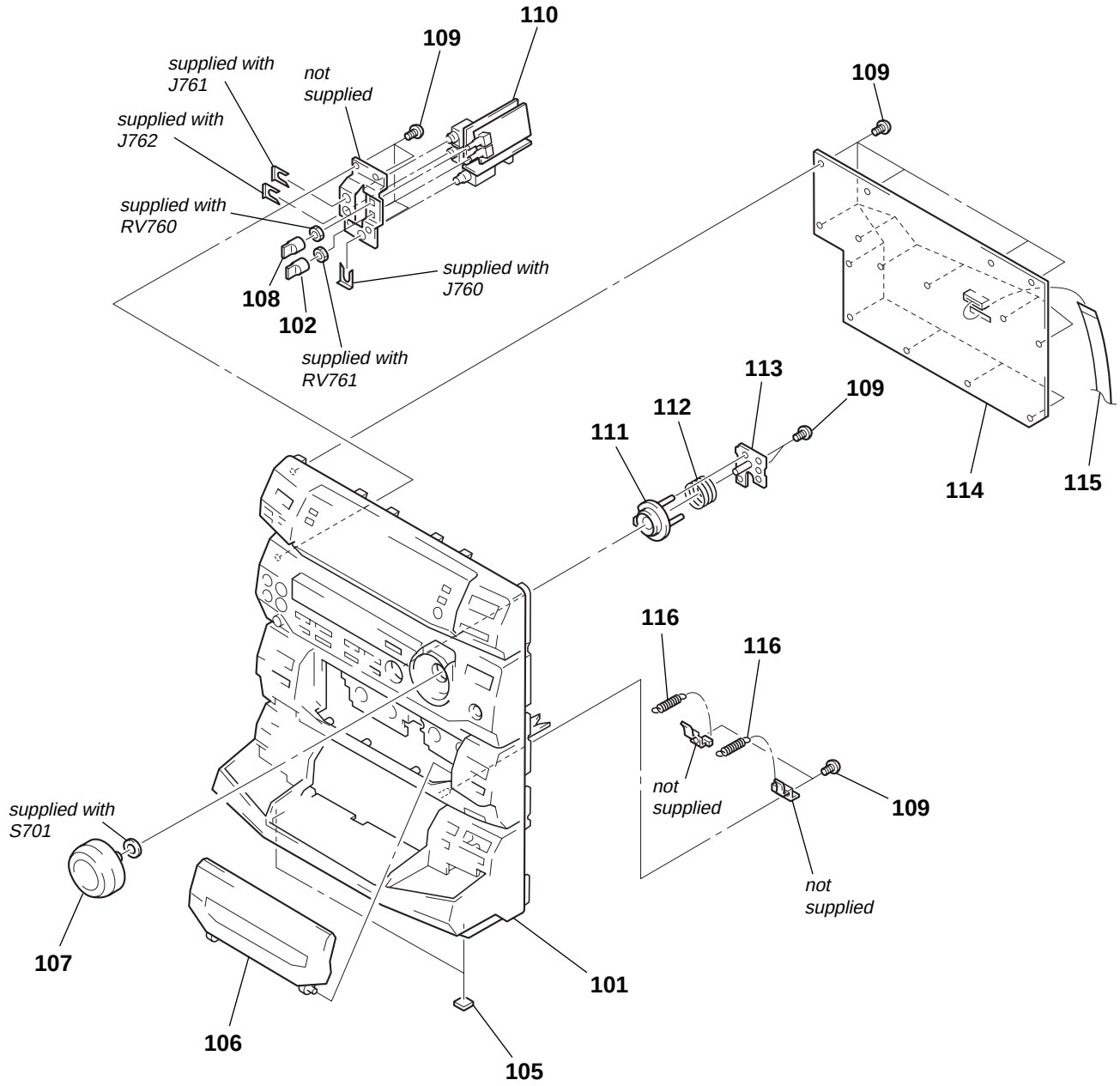
8-2. FRONT PANEL SECTION-1



Ref. No.	Part No.	Description	Remarks
51	4-987-995-01	SPRING (CD EJECT), COMPRESSION	
52	4-987-001-11	BUTTON (EJECT CD)	
* 53	1-664-019-11	CD-A SW BOARD	
54	X-4949-282-1	PANEL (A) SUB ASSY	
* 55	1-664-012-11	TC-A SW BOARD	
56	4-986-999-12	BUTTON (EJECT A)	
57	4-951-620-01	SCREW (2.6 × 8), +BVTP	
58	1-773-161-11	WIRE (FLAT TYPE) (21 CORE)	
59	1-769-949-11	WIRE (FLAT TYPE) (11 CORE)	
60	3-354-963-01	DAMPER	
* 61	1-664-017-11	LED BOARD	
62	4-957-577-01	SCREW PTP WH (2.6 × 8) (DIA. 10)	
* 63	1-664-016-11	DOOR SW BOARD	
* 64	4-987-933-01	BRACKET (TA)	

Ref. No.	Part No.	Description	Remarks
65	4-987-000-11	BUTTON (EJECT B)	
* 66	1-664-013-11	TC-B SW BOARD	
* 67	1-664-020-11	CD-B1 SW BOARD	
68	X-4949-279-1	BUTTON (CD STOP) ASSY	
69	4-987-037-11	KNOB (JOG)	
70	X-4949-274-1	PANEL (B) SUB ASSY	
* 71	1-664-021-11	CD-B2 SW BOARD	
72	A-4384-916-A	LID ASSY, CD	
72	A-4411-134-A	LID ASSY, CD	
73	4-987-014-01	INDICATOR (CD)	
74	4-987-002-11	BUTTON (CD.PLAY)	
75	X-4949-685-1	LID ASSY, DISC	
76	4-987-997-01	SPRING (CD. LID), TORSION	
77	4-987-998-01	SPRING (LOCK SHAFT), TORSION	
78	3-568-749-00	CUSHION, ECM	

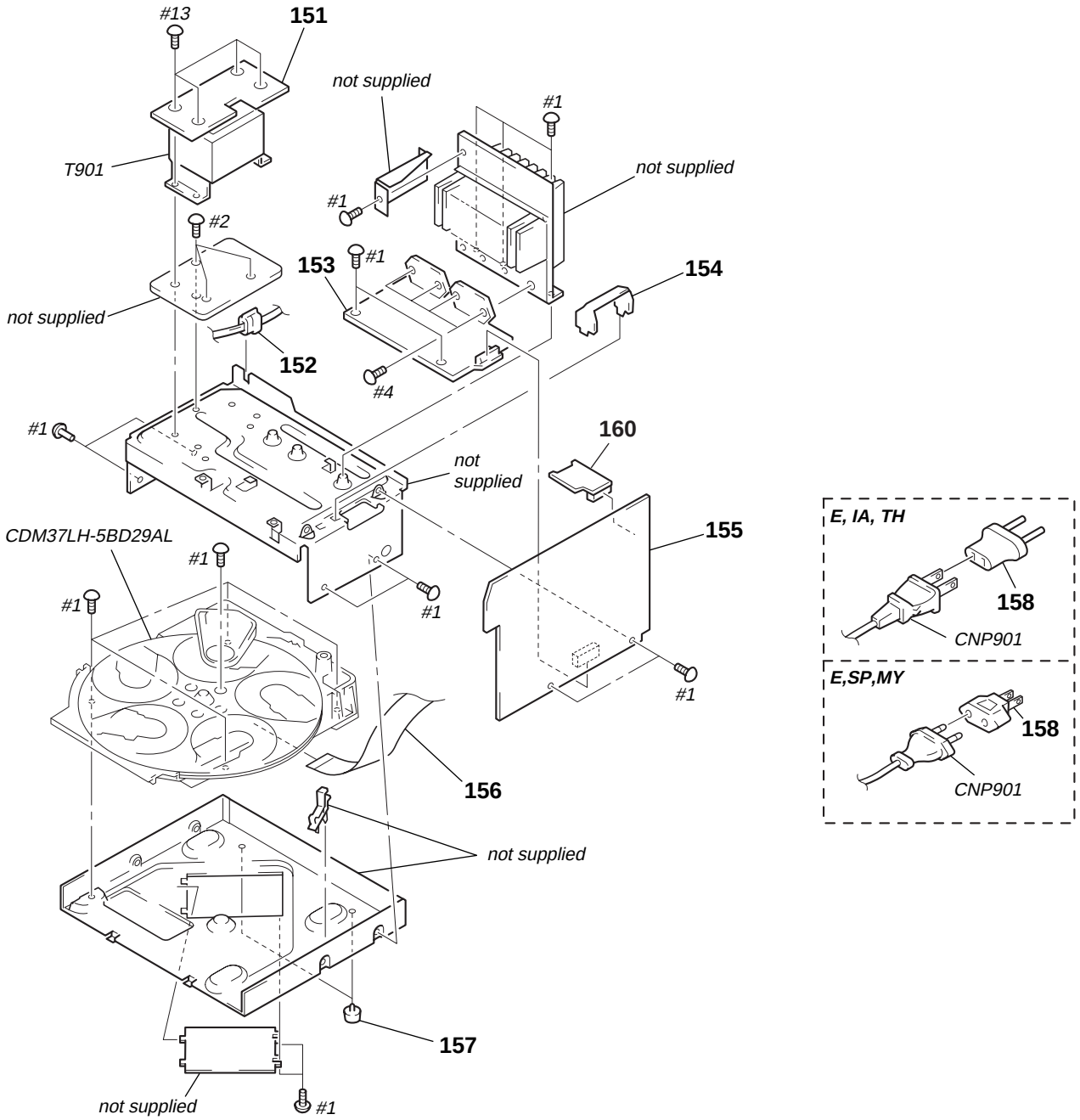
8-3. FRONT PANEL SECTION-2



Ref. No.	Part No.	Description	Remarks
101	X-4949-293-1	PANEL ASSY	
102	4-973-644-71	KNOB (ECHO)	
105	4-948-236-21	CUSHION (107)	
106	X-4949-271-1	LID ASSY, CASSETTE	
107	4-987-036-11	KNOB (VOL)	
108	4-973-644-71	KNOB (MIC)	
109	4-951-620-01	SCREW (2.6 × 8), +BVTP	

Ref. No.	Part No.	Description	Remarks
* 110	A-4403-916-A	HEADPHONE/MIC BOARD, COMPLETE	
111	4-986-990-11	BUTTON (CURSOR)	
112	4-978-683-01	SPRING, COMPRESSION	
* 113	4-987-041-01	COVER, CURSOR	
* 114	A-4403-858-A	PANEL BOARD, COMPLETE	
115	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)	
116	4-987-996-01	SPRING (TC LID), TENSION	

8-4. CHASSIS SECTION

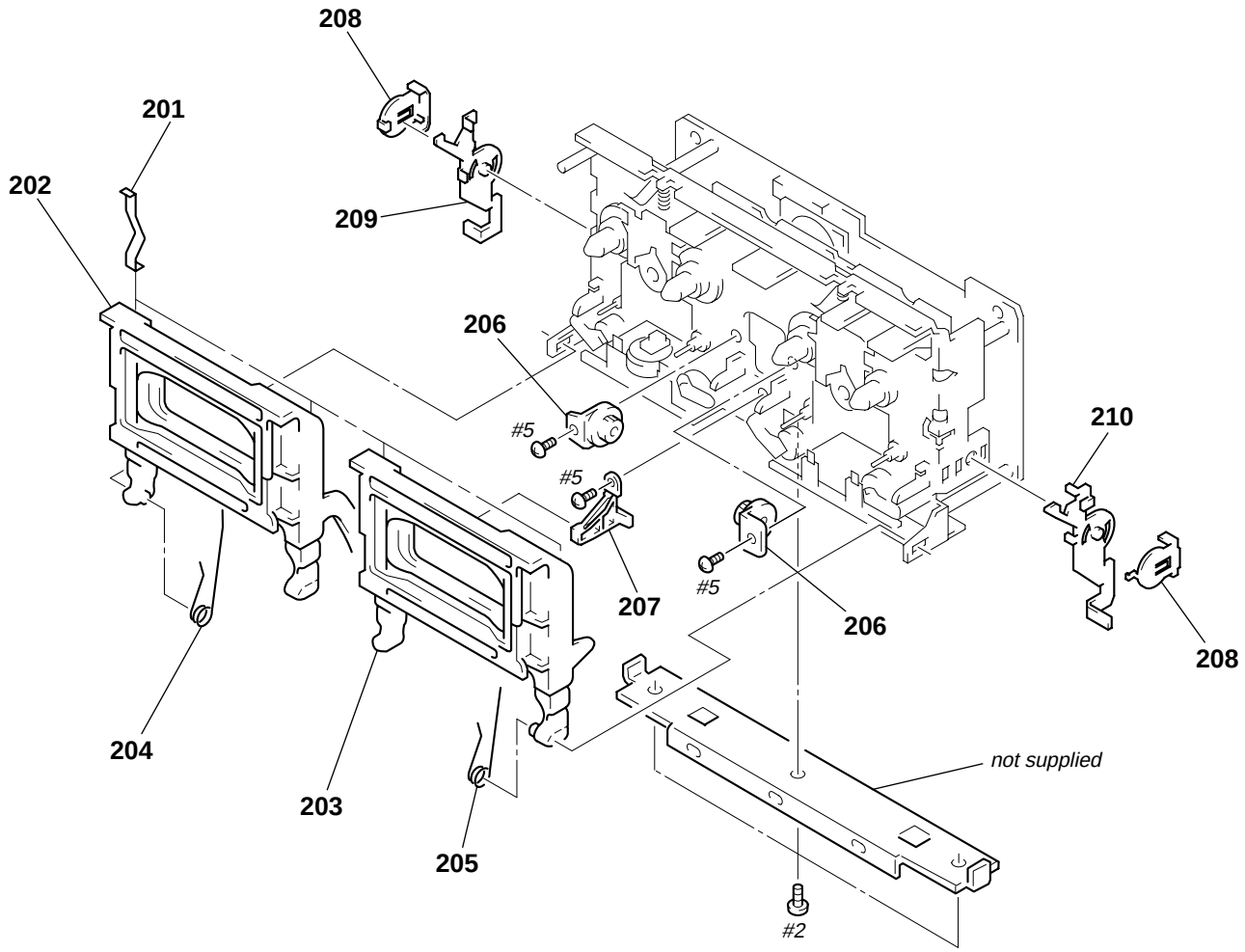


Ref. No.	Part No.	Description	Remarks
151	1-668-169-11	TRANS BOARD	
152	3-703-244-00	BUSHING (FBS001), CORD (EA, SP, MY)	
152	3-703-571-11	BUSHING (S) (4516), CORD (TH)	
152	4-966-266-01	BUSHING (S) (FBS002), CORD (E, IA)	
* 153	A-4403-848-A	POWER AMP BOARD, COMPLETE (EXCEPT TH)	
* 153	A-4414-461-A	POWER AMP BOARD, COMPLETE (TH)	
* 154	4-988-533-01	HOLDER, PWB	
* 155	A-4403-855-A	MAIN BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remarks
⚠156	1-777-868-11	WIRE (FLAT TYPE) (19 CORE)	
157	X-4941-228-1	FOOT (F22125H-M)	
⚠158	1-569-007-11	ADAPTOR, CONVERSION 2P (E, IA, TH)	
⚠158	1-569-008-11	ADAPTOR, CONVERSION 2P (EA, SP, MY)	
* 160	A-4403-922-A	KEY-CON BOARD, COMPLETE	
⚠CNP901	1-558-943-41	CORD, POWER (TH)	
⚠CNP901	1-558-943-51	CORD, POWER (E, IA)	
⚠CNP901	1-575-651-21	CORD, POWER (EA, SP, MY)	
⚠T901	1-431-638-11	TRANSFORMER, POWER	

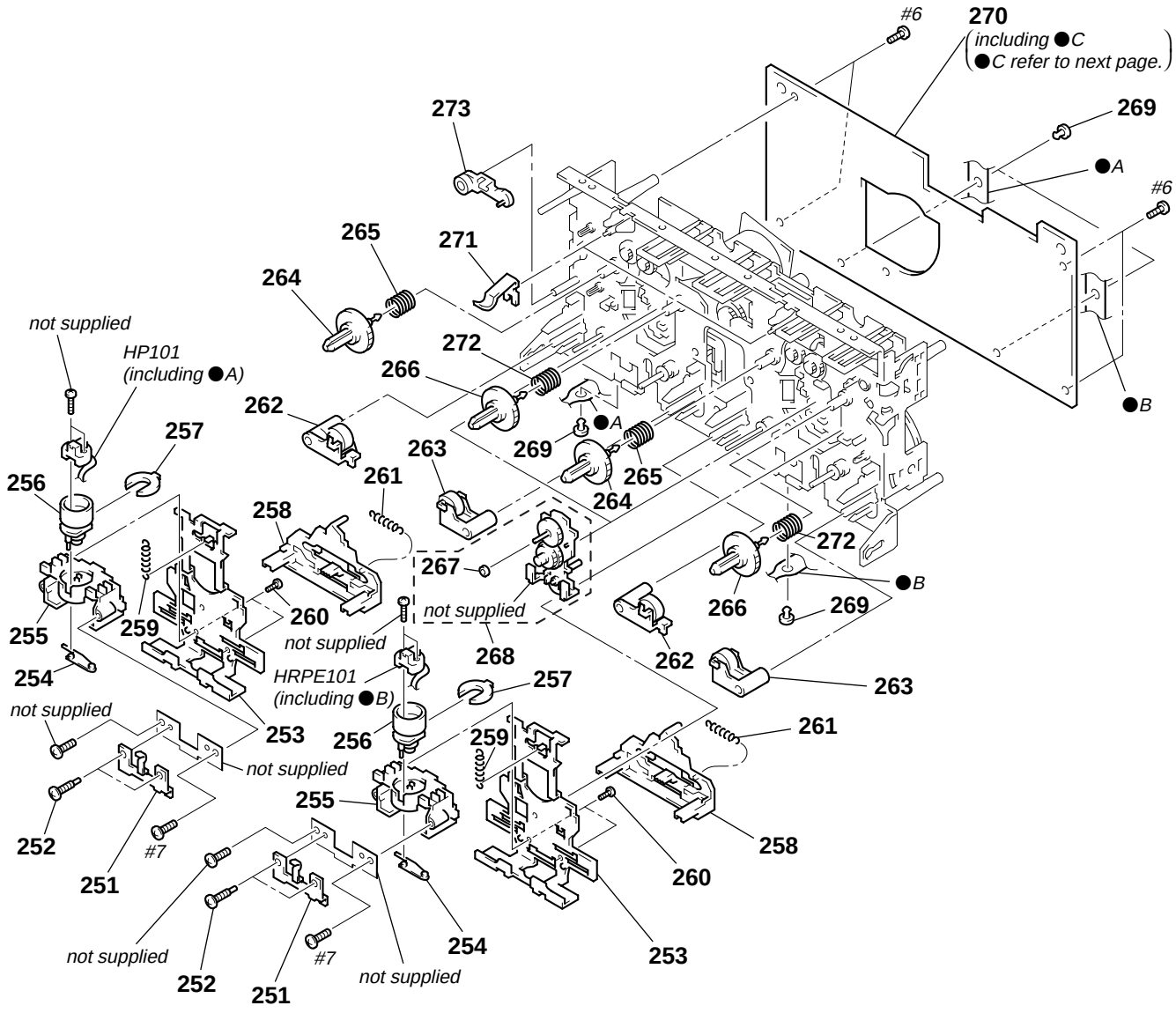
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

8-5. TAPE MECHANISM DECK SECTION-1 (TCM-220WR2)



Ref. No.	Part No.	Description	Remarks
201	4-959-229-11	DETENT, CASSETTE	
202	X-4947-943-1	HOLDER (L) ASSY, CASSETTE	
203	X-4947-944-1	HOLDER (R) ASSY, CASSETTE	
204	4-959-231-11	SPRING (L), TORSION	
205	4-959-232-11	SPRING (R), TORSION	
206	3-354-963-01	DAMPER	
* 207	4-980-439-01	FULCRUM, HOLDER	
208	3-354-957-01	JOINT (LOCK LEVER)	
209	3-354-953-01	LEVER (LOCK LEVER L)	
210	3-354-954-01	LEVER (LOCK LEVER R)	

8-6. TAPE MECHANISM DECK SECTION-2 (TCM-220WR2)

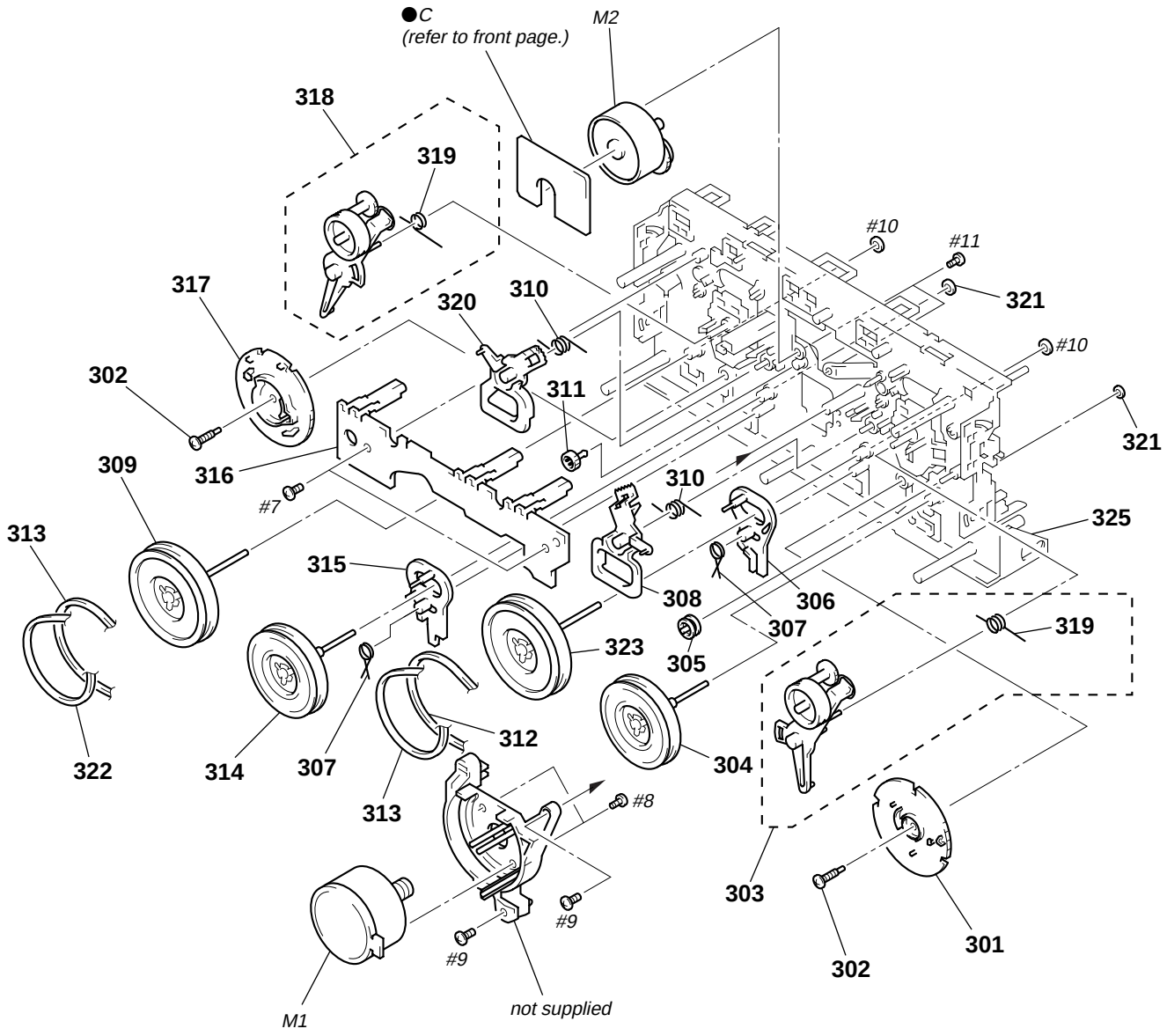


Ref. No.	Part No.	Description	Remarks
251	3-908-560-01	SPRING, AZIMUTH ADJUSTMENT	
252	3-919-684-01	SCREW, AZIMUTH ADJUSTMENT	
253	X-3373-113-1	SLIDER (HEAD) ASSY	
254	3-908-556-01	SPRING, HEAD TOGGLE	
255	3-908-558-02	FITTING BLOCK, HEAD	
256	3-908-557-02	ROTARY BLOCK, HEAD	
* 257	3-908-559-01	STOPPER, AZIMUTH	
258	3-908-555-01	SLIDER (REV SLIDER)	
259	3-917-143-11	SPRING, TENSION	
260	3-388-848-01	SCREW (P2X6) (B TIGHT)	
261	3-939-371-01	SPRING (1), TENSION	
262	X-3369-909-1	PINCH LEVER (REV) ASSY	

Ref. No.	Part No.	Description	Remarks
263	X-3369-908-1	PINCH LEVER (FWD) ASSY	
264	3-908-613-01	GEAR (S), REEL	
265	3-917-141-01	SPRING, COMPRESSION	
266	X-3371-305-1	REEL (T) ASSY	
267	3-669-465-01	WASHER (1.5), STOPPER	
268	X-3370-173-1	TU ASSY	
269	3-939-862-01	CLIP	
* 270	A-2007-131-A	AUDIO BOARD, COMPLETE	
271	3-930-972-01	DETENT, HALF	
272	3-917-142-01	SPRING, COMPRESSION	
273	3-938-863-01	STOPPER	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE)	

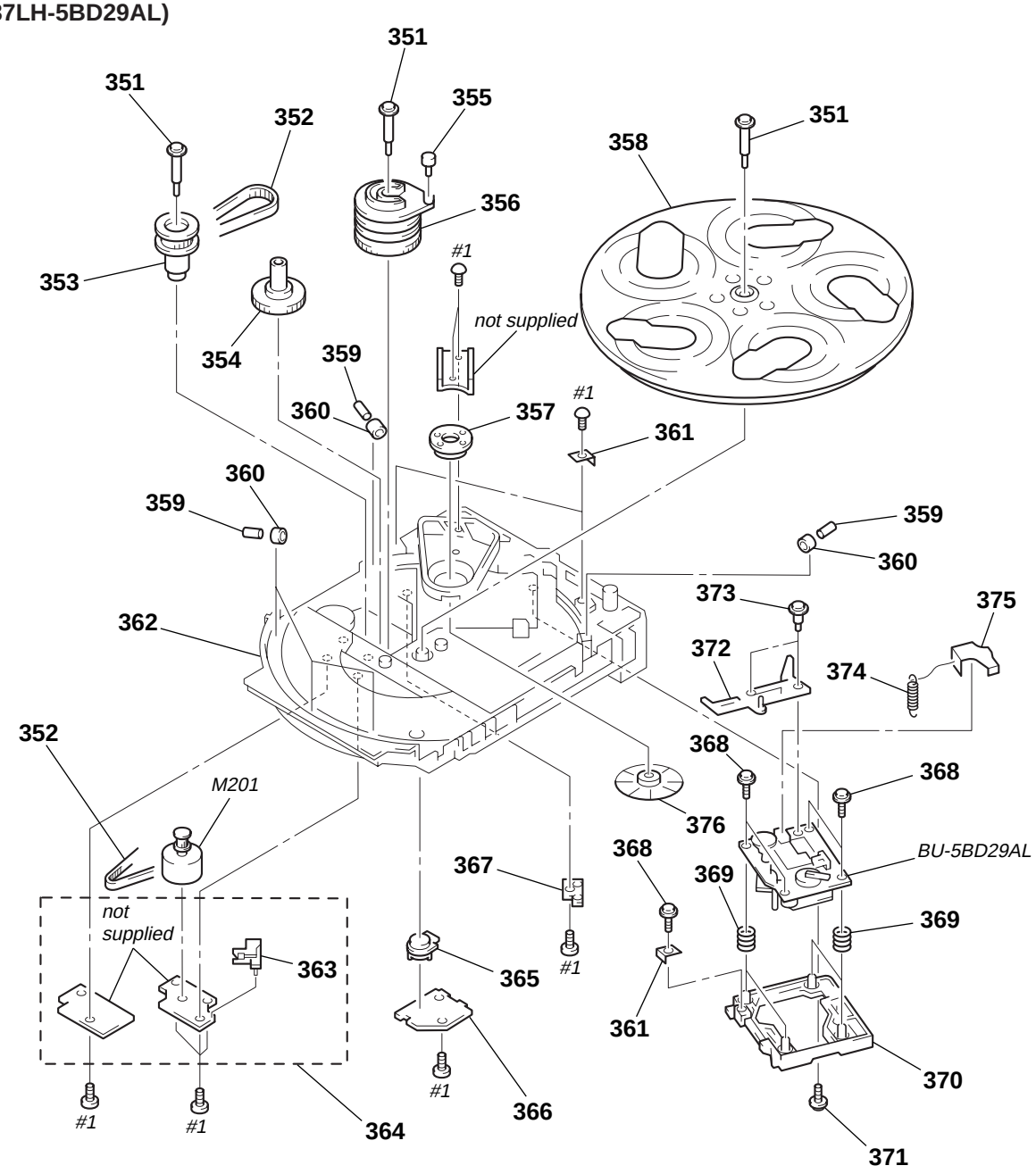
8-7. TAPE MECHANISM DECK SECTION-3 (TCM-220WR2)

●C: MOTOR board (supplied with AUDIO board)



Ref. No.	Part No.	Description	Remarks
301	3-908-597-01	CAM (A)	
302	3-908-608-11	SCREW, STEP	
303	X-3372-930-1	ARM (A) ASSY, FR	
304	X-3370-882-1	FLYWHEEL (AR) ASSY	
305	3-928-047-01	PULLEY, TENSION	
306	3-908-599-01	LEVER (REV-A)	
307	3-908-601-01	SPRING (REV LEVER), TORSION	
308	3-908-603-01	LEVER (TRIGGER A)	
309	X-3367-108-1	FLYWHEEL (BF) ASSY	
310	3-908-605-01	SPRING (TRIGGER), TORSION	
311	3-908-609-01	GEAR, TRIGGER	
312	3-913-845-11	BELT (A)	
313	3-913-846-11	BELT (FR)	
314	X-3370-171-1	FLYWHEEL (BR) ASSY	
315	3-908-600-01	LEVER (REV-B)	
* 316	1-650-669-11	LEAF SWITCH BOARD	
317	3-908-598-01	CAM (B)	
318	X-3372-931-1	ARM (B) ASSY, FR	
319	3-914-111-01	SPRING (FR), TORSION	
320	3-908-604-01	LEVER (TRIGGER B)	
321	3-911-115-01	WASHER, STOPPER	
322	3-917-176-11	BELT (B)	
323	X-3370-172-1	FLYWHEEL (AF) ASSY	
325	X-3371-441-1	CHASSIS ASSY, MECHANICAL	
M1	X-3371-223-1	MOTOR ASSY, CAPSTAN	
M2	A-2004-410-A	MOTOR ASSY, DC (TRIGGER)	

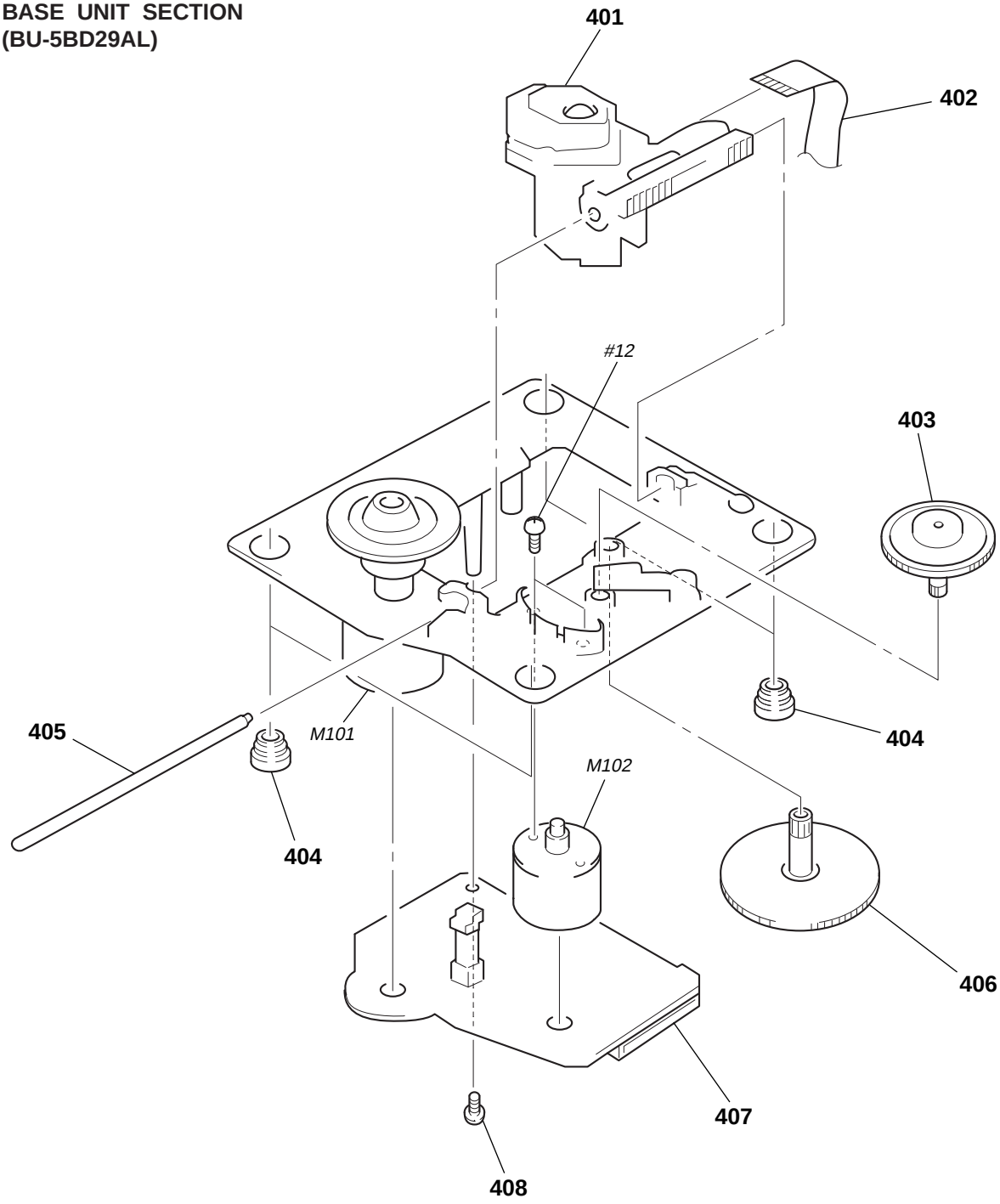
8-8. CD MECHANISM DECK SECTION (CDM37LH-5BD29AL)



Ref. No.	Part No.	Description	Remarks
351	4-987-976-01	SCREW, STEP	
352	4-944-490-01	BELT (TIMING)	
353	A-4660-978-A	GEAR (PULLEY) ASSY	
354	4-978-421-01	GEAR (MID)	
355	4-978-425-01	ROLLER (CAM)	
356	4-978-420-01	CAM (HOLDER)	
357	1-452-925-21	MAGNET ASSY	
358	4-978-417-01	TABLE, DISC	
359	4-934-376-01	SHAFT (ROLLER)	
360	X-4947-960-1	ROLLER ASSY	
* 361	4-978-583-01	BRACKET (BU)	
* 362	4-978-418-01	CHASSIS	
* 363	4-980-385-01	HOLDER (SW)	
* 364	A-4673-765-A	CD MOTOR BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remarks
365	4-978-426-01	INDICATOR (NO.)	
* 366	1-659-059-13	BD LED BOARD	
* 367	1-659-058-13	TABLE SENSOR BOARD	
368	4-985-672-01	SCREW (+PTPWH M2.6), FLOATING	
369	4-958-593-01	SPRING (BU), COMPRESSION	
* 370	4-978-419-01	HOLDER (BU-5)	
371	4-998-716-01	SCREW, BU FITTING	
372	4-989-493-01	SLIDER (37)	
373	4-989-494-01	SCREW (SLIDER), STEP	
374	4-989-819-02	SPRING, TENSION	
375	4-989-491-21	COVER, LENS	
376	4-993-142-11	PULLEY (L), PRESS	
M201	A-4660-977-A	MOTOR ASSY (TABLE)	

8-9. BASE UNIT SECTION (BU-5BD29AL)



Ref. No.	Part No.	Description	Remarks
⚠401	8-820-020-01	OPTICAL PICK-UP KSS-213D/Q-NP	
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
403	4-917-567-21	GEAR (M)	
404	4-951-940-01	INSULATOR (BU)	
405	4-917-565-01	SHAFT, SLED	
406	4-917-564-01	GEAR (P), FLATNESS	
* 407	A-4699-522-A	BD BOARD, COMPLETE	
408	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-504-1	MOTOR ASSY (SPINDLE)	
M102	X-4917-523-4	MOTOR ASSY (SLED)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

AUDIO

SECTION 9
ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Abbreviation
  IA : Indonesian
  TH : Thai
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... , uPB... , µPB... , uPC... , µPC... , uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
*	A-2007-131-A	AUDIO BOARD, COMPLETE			
		**********			
		(including MOTOR BOARD)			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-126-233-11	ELECT	22uF	20%	50V
C431	1-137-427-11	FILM	120PF	5%	50V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-104-396-11	ELECT	10uF	20%	16V
C602	1-104-396-11	ELECT	10uF	20%	16V
C611	1-124-907-11	ELECT	10uF	20%	50V
C612	1-124-907-11	ELECT	10uF	20%	50V
C621	1-137-150-11	FILM	0.01uF	5%	100V
C622	1-126-961-11	ELECT	2.2uF	20%	50V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-104-664-11	ELECT	47uF	20%	16V
C651	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
CN601	1-695-382-31	PIN, CONNECTOR (PC BOARD) 21P			
CN602	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN651	1-564-521-11	PLUG, CONNECTOR 6P			

Ref. No.	Part No.	Description			Remarks
		< IC >			
IC601	8-759-111-44	IC uPC4570C-1			
IC602	8-759-143-54	IC uPC1330HA			
IC611	8-759-111-44	IC uPC4570C-1			
		< COIL >			
L331	1-410-780-11	INDUCTOR	27mH		
L431	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q621	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q622	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q623	8-729-801-93	TRANSISTOR	2SD1387		
Q651	8-729-900-65	TRANSISTOR	DTA144ES		
		< RESISTOR >			
R301	1-247-881-00	CARBON	120K	5%	1/4W
R302	1-249-409-11	CARBON	220	5%	1/4W
R303	1-249-433-11	CARBON	22K	5%	1/4W
R304	1-247-889-00	CARBON	270K	5%	1/4W
R305	1-247-858-11	CARBON	13K	5%	1/4W
R311	1-247-881-00	CARBON	120K	5%	1/4W
R312	1-247-807-31	CARBON	100	5%	1/4W
R314	1-247-882-11	CARBON	130K	5%	1/4W
R315	1-247-850-11	CARBON	6.2K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R401	1-247-881-00	CARBON	120K	5%	1/4W
R402	1-249-409-11	CARBON	220	5%	1/4W
R403	1-249-433-11	CARBON	22K	5%	1/4W
R404	1-247-889-00	CARBON	270K	5%	1/4W
R405	1-247-858-11	CARBON	13K	5%	1/4W
R411	1-247-881-00	CARBON	120K	5%	1/4W
R412	1-247-807-31	CARBON	100	5%	1/4W
R414	1-247-882-11	CARBON	130K	5%	1/4W
R415	1-247-850-11	CARBON	6.2K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W
R601	1-249-409-11	CARBON	220	5%	1/4W
R602	1-249-409-11	CARBON	220	5%	1/4W
R608	1-249-409-11	CARBON	220	5%	1/4W
R609	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W
R612	1-249-409-11	CARBON	220	5%	1/4W
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
R623	1-249-432-11	CARBON	18K	5%	1/4W
R624	1-249-432-11	CARBON	18K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R625	1-249-429-11	CARBON	10K	5%	1/4W
R651	1-247-856-00	CARBON	11K	5%	1/4W
R652	1-247-856-00	CARBON	11K	5%	1/4W
R653	1-249-441-11	CARBON	100K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV341	1-238-551-11	RES, ADJ, CARBON 220K			
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV441	1-238-551-11	RES, ADJ, CARBON 220K			
RV651	1-238-599-11	RES, ADJ, CARBON 4.7K			
RV652	1-238-599-11	RES, ADJ, CARBON 4.7K			
		< TRANSFORMER >			
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			
**********					
*	A-4699-522-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-126-607-11	ELECT CHIP	47uF	20%	4V
C102	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C106	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C107	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C108	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C112	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C113	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C117	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C118	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C119	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C120	1-124-779-00	ELECT CHIP	10uF	20%	16V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C123	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C131	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C161	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C162	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C163	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remarks
C164	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C165	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C166	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C167	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C168	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C169	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C170	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C171	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C173	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C175	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C176	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C177	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C178	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C179	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C181	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C182	1-126-393-11	ELECT	33uF	20%	10V
C183	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C185	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C188	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C189	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P			
CNU102	1-778-874-11	CONNECTOR, FFC(LIF(NON-ZIF))19P			
		< FERRITE BEAD >			
FB101	1-414-234-11	INDUCTOR, FERRITE BEAD			
FB103	1-414-234-11	INDUCTOR, FERRITE BEAD			
		< IC >			
IC101	8-752-080-62	IC CXA1992AR			
IC102	8-759-429-32	IC BA5941FP-E2			
IC103	8-752-378-66	IC CXD2519Q			
		< CHIP CONDUCTOR >			
JW101	1-216-295-91	CONDUCTOR, CHIP (2012)			
JW104	1-216-295-91	CONDUCTOR, CHIP (2012)			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R102	1-216-001-00	METAL CHIP	10	5%	1/10W
R104	1-216-093-00	METAL CHIP	68K	5%	1/10W
R105	1-216-088-00	METAL CHIP	43K	5%	1/10W
R106	1-216-088-00	METAL CHIP	43K	5%	1/10W
R107	1-216-088-00	METAL CHIP	43K	5%	1/10W
R108	1-216-088-00	METAL CHIP	43K	5%	1/10W
R109	1-216-093-00	METAL CHIP	68K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R117	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R118	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R119	1-216-085-00	METAL CHIP	33K	5%	1/10W
R120	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R121	1-216-114-00	METAL GLAZE	510K	5%	1/10W

BD **BD LED** **CD MOTOR** **CD-A SW**

Ref. No.	Part No.	Description			Remarks
R122	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R126	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R127	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R128	1-216-098-00	METAL CHIP	110K	5%	1/10W
R129	1-216-025-91	METAL GLAZE	100	5%	1/10W
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R138	1-216-025-91	METAL GLAZE	100	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R158	1-216-001-00	METAL CHIP	10	5%	1/10W
R159	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R161	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R162	1-216-073-00	METAL CHIP	10K	5%	1/10W
R163	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R164	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R165	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R166	1-216-073-00	METAL CHIP	10K	5%	1/10W
R167	1-216-081-00	METAL CHIP	22K	5%	1/10W
R168	1-216-073-00	METAL CHIP	10K	5%	1/10W
R169	1-216-079-00	METAL CHIP	18K	5%	1/10W
R170	1-216-081-00	METAL CHIP	22K	5%	1/10W
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-079-00	METAL CHIP	18K	5%	1/10W
R173	1-216-025-91	METAL GLAZE	100	5%	1/10W
R174	1-216-033-00	METAL CHIP	220	5%	1/10W
R175	1-216-025-91	METAL GLAZE	100	5%	1/10W
R176	1-216-025-91	METAL GLAZE	100	5%	1/10W
R177	1-216-025-91	METAL GLAZE	100	5%	1/10W
R178	1-216-025-91	METAL GLAZE	100	5%	1/10W
R179	1-216-025-91	METAL GLAZE	100	5%	1/10W
R180	1-216-025-91	METAL GLAZE	100	5%	1/10W
R181	1-216-025-91	METAL GLAZE	100	5%	1/10W
R188	1-216-037-00	METAL CHIP	330	5%	1/10W
R190	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R191	1-216-105-91	METAL GLAZE	220K	5%	1/10W
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
		< VIBRATOR >			
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			

****

Ref. No.	Part No.	Description			Remarks
*	1-659-059-13	BD LED BOARD			
		**********			
*	4-980-385-01	HOLDER (SW)			
		< DIODE >			
D201	8-719-032-98	DIODE SEL5820A (DISC No.)			
		< TRANSISTOR >			
Q201	8-729-119-78	TRANSISTOR 2SC403SP-51			
		< RESISTOR >			
R201	1-247-863-91	CARBON	22K	5%	1/4W
R202	1-249-411-11	CARBON	330	5%	1/4W
R203	1-249-437-11	CARBON	47K	5%	1/4W
**********					
*	A-4673-765-A	CD MOTOR BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C201	1-124-907-11	ELECT	10uF	20%	50V
C202	1-164-159-21	CERAMIC	0.1uF		50V
C203	1-124-907-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
* CN201	1-568-947-11	PIN, CONNECTOR 9P			
		< IC >			
IC201	8-759-365-94	IC TA8409S			
		< COIL >			
L201	1-408-117-00	INDUCTOR 10uH			
		< RESISTOR >			
R205	1-249-427-11	CARBON	6.8K	5%	1/4W
R206	1-249-425-11	CARBON	4.7K	5%	1/4W
		< SWITCH >			
S201	1-762-587-11	SWITCH, PUSH (1 KEY) (UP)			
**********					
*	1-664-019-11	CD-A SW BOARD			
		**********			
		< DIODE >			
D641	8-719-058-04	DIODE SEL5223S-TP15 (NON-STOP)			
		< RESISTOR >			
R731	1-249-411-11	CARBON	330	5%	1/4W
R732	1-249-413-11	CARBON	470	5%	1/4W
R733	1-249-415-11	CARBON	680	5%	1/4W
R734	1-249-417-11	CARBON	1K	5%	1/4W
R735	1-249-419-11	CARBON	1.5K	5%	1/4W
R736	1-249-421-11	CARBON	2.2K	5%	1/4W
R737	1-249-417-11	CARBON	1K	5%	1/4W
R741	1-247-807-31	CARBON	100	5%	1/4W

CD-A SW | CD-B1 SW | CD-B2 SW | DOOR SW | HEADPHONE-MIC

Ref. No.	Part No.	Description			Remarks
		< SWITCH >			
S661	1-554-303-21	SWITCH, TACTILE (DISC 1)			
S662	1-554-303-21	SWITCH, TACTILE (DISC 2)			
S663	1-554-303-21	SWITCH, TACTILE (DISC 3)			
S664	1-554-303-21	SWITCH, TACTILE (DISC 4)			
S665	1-554-303-21	SWITCH, TACTILE (DISC 5)			
S666	1-554-303-21	SWITCH, TACTILE (FLASH)			
S667	1-554-303-21	SWITCH, TACTILE (NON-STOP)			
S668	1-554-303-21	SWITCH, TACTILE (LOOP)			
**********					
*	1-664-020-11	CD-B1 SW BOARD			
		**********			
		< CONNECTOR >			
* CN642	1-568-943-11	PIN, CONNECTOR 5P			
		< DIODE >			
D645	8-719-057-29	DIODE SML78423C-TP15 (▷)			
D646	8-719-057-97	DIODE SEL5923A-TP15 (❚❚)			
D647	8-719-057-29	DIODE SML78423C-TP15 (▷)			
		< RESISTOR >			
R745	1-247-815-91	CARBON	220	5%	1/4W
R746	1-249-411-11	CARBON	330	5%	1/4W
R747	1-249-413-11	CARBON	470	5%	1/4W
R748	1-249-415-11	CARBON	680	5%	1/4W
R749	1-247-807-31	CARBON	100	5%	1/4W
R750	1-247-807-31	CARBON	100	5%	1/4W
R751	1-247-807-31	CARBON	100	5%	1/4W
		< SWITCH >			
S676	1-554-303-21	SWITCH, TACTILE (▷)			
S677	1-554-303-21	SWITCH, TACTILE (■)			
S678	1-554-303-21	SWITCH, TACTILE (❚❚)			
S679	1-554-303-21	SWITCH, TACTILE (DISC SKIP)			
**********					
*	1-664-021-11	CD-B2 SW BOARD			
		**********			
		< RESISTOR >			
R752	1-249-417-11	CARBON	1K	5%	1/4W
R753	1-249-419-11	CARBON	1.5K	5%	1/4W
R754	1-249-421-11	CARBON	2.2K	5%	1/4W
R755	1-247-843-11	CARBON	3.3K	5%	1/4W
R756	1-249-427-11	CARBON	6.8K	5%	1/4W
		< SWITCH >			
S681	1-554-303-21	SWITCH, TACTILE (▶▶)			
S682	1-554-303-21	SWITCH, TACTILE (REPEAT)			
S683	1-554-303-21	SWITCH, TACTILE (PLAY MODE)			
S684	1-554-303-21	SWITCH, TACTILE (1/ALL DISCS)			
S685	1-554-303-21	SWITCH, TACTILE (EDIT)			
S686	1-554-303-21	SWITCH, TACTILE (◀◀)			
S711	1-467-968-11	ENCODER, ROTARY (⏮ AMS ⏭)			
**********					

Ref. No.	Part No.	Description			Remarks
*	1-664-016-11	DOOR SW BOARD			
		**********			
		< CAPACITOR >			
C691	1-164-159-21	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN661	1-506-481-11	PIN, CONNECTOR 2P			
		< SWITCH >			
S691	1-771-057-11	SWITCH, PUSH (1 KEY)(⏏ OPEN)			
**********					
*	A-4403-916-A	HEADPHONE-MIC BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C760	1-162-306-11	CERAMIC	0.01uF	20%	16V
C761	1-126-961-11	ELECT	2.2uF	20%	50V
C762	1-162-306-11	CERAMIC	0.01uF	20%	16V
C763	1-126-961-11	ELECT	2.2uF	20%	50V
C764	1-162-294-31	CERAMIC	0.001uF	10%	50V
C765	1-162-215-31	CERAMIC	47PF	5%	50V
C766	1-162-290-31	CERAMIC	470PF	10%	50V
C767	1-162-215-31	CERAMIC	47PF	5%	50V
C768	1-126-961-11	ELECT	2.2uF	20%	50V
C769	1-162-282-31	CERAMIC	100PF	10%	50V
C770	1-126-961-11	ELECT	2.2uF	20%	50V
C771	1-126-959-11	ELECT	0.47uF	20%	50V
C773	1-126-964-11	ELECT	10uF	20%	50V
C774	1-126-964-11	ELECT	10uF	20%	50V
C775	1-162-294-31	CERAMIC	0.001uF	10%	50V
C776	1-162-294-31	CERAMIC	0.001uF	10%	50V
C777	1-126-960-11	ELECT	1uF	20%	50V
C778	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C779	1-162-294-31	CERAMIC	0.001uF	10%	50V
C780	1-136-495-11	FILM	0.068uF	5%	50V
C781	1-126-957-11	ELECT	0.22uF	20%	50V
C782	1-126-957-11	ELECT	0.22uF	20%	50V
C783	1-126-967-11	ELECT	47uF	20%	10V
C784	1-136-495-11	FILM	0.068uF	5%	50V
C785	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C786	1-162-294-31	CERAMIC	0.001uF	10%	50V
C787	1-124-250-11	ELECT	0.15uF	20%	50V
C788	1-126-960-11	ELECT	1uF	20%	50V
C789	1-161-494-00	CERAMIC	0.022uF		25V
C790	1-126-967-11	ELECT	47uF	20%	10V
C791	1-164-159-21	CERAMIC	0.1uF		50V
C794	1-164-159-21	CERAMIC	0.1uF		50V
C795	1-164-159-21	CERAMIC	0.1uF		50V
C797	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C798	1-164-159-21	CERAMIC	0.1uF		50V
C799	1-164-159-21	CERAMIC	0.1uF		50V

HEADPHONE-MIC | KEY-CON

Ref. No.	Part No.	Description			Remarks
		< CONNECTOR >			
* CN701	1-568-935-11	PIN, CONNECTOR 8P			
		< DIODE >			
D761	8-719-200-82	DIODE 11ES2			
D762	8-719-200-82	DIODE 11ES2			
D763	8-719-200-82	DIODE 11ES2			
		< IC >			
IC760	8-759-634-51	IC M5218AP			
IC761	8-759-450-96	IC M65850P			
		< JACK >			
J760	1-770-226-41	JACK (LARGE TYPE) (PHONES)			
J761	1-770-226-41	JACK (LARGE TYPE) (MIC 1)			
J762	1-770-226-41	JACK (LARGE TYPE) (MIC 2)			
		< COIL >			
L761	1-410-521-11	INDUCTOR 100uH			
		< RESISTOR >			
R760	1-249-429-11	CARBON	10K	5%	1/4W
R761	1-249-417-11	CARBON	1K	5%	1/4W F
R762	1-249-429-11	CARBON	10K	5%	1/4W
R763	1-249-417-11	CARBON	1K	5%	1/4W F
R764	1-249-441-11	CARBON	100K	5%	1/4W
R765	1-249-417-11	CARBON	1K	5%	1/4W F
R766	1-249-437-11	CARBON	47K	5%	1/4W
R767	1-249-429-11	CARBON	10K	5%	1/4W
R768	1-249-431-11	CARBON	15K	5%	1/4W
R769	1-247-885-00	CARBON	180K	5%	1/4W
R770	1-247-807-31	CARBON	100	5%	1/4W
R771	1-247-863-91	CARBON	22K	5%	1/4W
R772	1-247-863-91	CARBON	22K	5%	1/4W
R773	1-247-863-91	CARBON	22K	5%	1/4W
R774	1-247-881-00	CARBON	120K	5%	1/4W
R775	1-247-863-91	CARBON	22K	5%	1/4W
R776	1-247-863-91	CARBON	22K	5%	1/4W
R777	1-247-863-91	CARBON	22K	5%	1/4W
R778	1-249-437-11	CARBON	47K	5%	1/4W
R779	1-249-431-11	CARBON	15K	5%	1/4W
R782	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV760	1-225-366-11	RES, VAR, CARBON 50K (MIC LEVEL)			
RV761	1-225-366-11	RES, VAR, CARBON 50K (ECHO LEVEL)			

****

*	A-4403-922-A	KEY-CON BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C501	1-126-382-11	ELECT	100uF	20%	6.3V
C502	1-164-159-21	CERAMIC	0.1uF		50V
C503	1-126-967-11	ELECT	47uF	20%	10V
C504	1-164-159-21	CERAMIC	0.1uF		50V
C505	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C506	1-162-286-21	CERAMIC	220PF	10%	50V
C507	1-162-286-21	CERAMIC	220PF	10%	50V
C508	1-136-495-11	FILM	0.068uF	5%	50V
C509	1-136-495-11	FILM	0.068uF	5%	50V
C510	1-136-495-11	FILM	0.068uF	5%	50V
C511	1-164-159-21	CERAMIC	0.1uF		50V
C512	1-162-284-31	CERAMIC	150PF	10%	50V
C513	1-136-165-00	FILM	0.1uF	5%	50V
C514	1-136-165-00	FILM	0.1uF	5%	50V
C515	1-162-294-31	CERAMIC	0.001uF	10%	50V
C516	1-162-294-31	CERAMIC	0.001uF	10%	50V
C517	1-162-294-31	CERAMIC	0.001uF	10%	50V
C518	1-162-306-11	CERAMIC	0.01uF	20%	16V
C519	1-162-294-31	CERAMIC	0.001uF	10%	50V
C520	1-126-964-11	ELECT	10uF	20%	50V
C521	1-162-291-31	CERAMIC	560PF	10%	50V
C522	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C523	1-162-290-31	CERAMIC	470PF	10%	50V
C524	1-126-964-11	ELECT	10uF	20%	50V
C525	1-126-964-11	ELECT	10uF	20%	50V
C526	1-126-964-11	ELECT	10uF	20%	50V
C527	1-126-964-11	ELECT	10uF	20%	50V
C1439	1-126-964-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
CN501	1-566-999-11	PIN, CONNECTOR 13P			
		< IC >			
IC501	8-759-370-84	IC M65847FP-TP			
IC502	8-759-140-53	IC UPD4053BC			
		< COIL >			
L501	1-410-521-11	INDUCTOR 100uH			
		< TRANSISTOR >			
Q501	8-729-119-78	TRANSISTOR 2SC403SP-51			
Q501	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q502	8-729-029-66	TRANSISTOR DTC114ESA			
Q502	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R501	1-247-807-31	CARBON	100	5%	1/4W
R502	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-247-807-31	CARBON	100	5%	1/4W
R504	1-249-425-11	CARBON	4.7K	5%	1/4W F
R505	1-247-903-00	CARBON	1M	5%	1/4W
R506	1-249-429-11	CARBON	10K	5%	1/4W
R507	1-249-425-11	CARBON	4.7K	5%	1/4W F
R508	1-249-429-11	CARBON	10K	5%	1/4W
R509	1-249-434-11	CARBON	27K	5%	1/4W
R510	1-249-426-11	CARBON	5.6K	5%	1/4W
R511	1-249-424-11	CARBON	3.9K	5%	1/4W F
R512	1-249-431-11	CARBON	15K	5%	1/4W
R513	1-249-429-11	CARBON	10K	5%	1/4W
R514	1-247-863-91	CARBON	22K	5%	1/4W
R515	1-249-429-11	CARBON	10K	5%	1/4W
R516	1-249-441-11	CARBON	100K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R517	1-247-863-91	CARBON	22K	5%	1/4W
R518	1-247-863-91	CARBON	22K	5%	1/4W
R519	1-249-441-11	CARBON	100K	5%	1/4W
R520	1-249-441-11	CARBON	100K	5%	1/4W
R521	1-249-429-11	CARBON	10K	5%	1/4W
R522	1-249-425-11	CARBON	4.7K	5%	1/4W F
R523	1-249-425-11	CARBON	4.7K	5%	1/4W F
R524	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-249-417-11	CARBON	1K	5%	1/4W F
**********					
* 1-650-669-11		LEAF SWITCH BOARD			
		**********			
		< CONNECTOR >			
* CN1001	1-568-854-11	SOCKET, CONNECTOR 11P			
		< TRANSISTOR >			
Q1001	8-749-010-90	TRANSISTOR PHOTO REFLECTOR NJL5165KA-H			
Q1002	8-749-010-90	TRANSISTOR PHOTO REFLECTOR NJL5165KA-H			
		< RESISTOR >			
R1001	1-247-818-11	CARBON	300	5%	1/4W
R1002	1-247-820-11	CARBON	360	5%	1/4W
R1003	1-249-414-11	CARBON	560	5%	1/4W
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W
R1005	1-247-818-11	CARBON	300	5%	1/4W
		< SWITCH >			
S1001	1-692-832-11	SWITCH, PUSH (1 KEY) (DECK A PLAY)			
S1002	1-692-832-11	SWITCH, PUSH (1 KEY) (DECK B PLAY)			
S1003	1-572-248-11	SWITCH, LEAF (DECK A HALF)			
S1004	1-571-281-21	SWITCH, LEAF (DECK A 120/70)			
S1005	1-571-281-21	SWITCH, LEAF (DECK A REC)			
S1006	1-572-248-11	SWITCH, LEAF (DECK B HALF)			
S1008	1-571-281-21	SWITCH, LEAF (DECK B 120/70)			
S1009	1-571-281-21	SWITCH, LEAF (DECK B REC)			
**********					
* 1-664-017-11		LED BOARD			
		**********			
		< CONNECTOR >			
CN671	1-506-481-11	PIN, CONNECTOR 2P			
		< DIODE >			
D671	8-719-058-03	DIODE SEL5423E-TP15 (BACK LIGHT)			
D672	8-719-058-03	DIODE SEL5423E-TP15 (BACK LIGHT)			
D673	8-719-058-03	DIODE SEL5423E-TP15 (BACK LIGHT)			
D674	8-719-058-03	DIODE SEL5423E-TP15 (BACK LIGHT)			
		< RESISTOR >			
R791	1-249-412-11	CARBON	390	5%	1/4W
**********					

Ref. No.	Part No.	Description			Remarks
*	A-4403-855-A	MAIN BOARD, COMPLETE			
		**********			
*	4-870-539-11	PLATE, GROUND			
	7-685-646-79	SCREW +BVTP 3 × 8 TYPE2 N-S			
		< CAPACITOR >			
C100	1-164-159-21	CERAMIC	0.1uF		50V
C102	1-162-282-31	CERAMIC	100PF	10%	50V
C103	1-162-282-31	CERAMIC	100PF	10%	50V
C104	1-126-961-11	ELECT	2.2uF	20%	50V
C105	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C106	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C107	1-126-956-91	ELECT	0.1uF	20%	50V
C121	1-162-286-21	CERAMIC	220PF	10%	50V
C122	1-162-286-21	CERAMIC	220PF	10%	50V
C123	1-162-306-11	CERAMIC	0.01uF	20%	16V
C152	1-162-282-31	CERAMIC	100PF	10%	50V
C153	1-162-282-31	CERAMIC	100PF	10%	50V
C154	1-126-961-11	ELECT	2.2uF	20%	50V
C155	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C156	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C157	1-126-956-91	ELECT	0.1uF	20%	50V
C171	1-162-286-21	CERAMIC	220PF	10%	50V
C172	1-162-286-21	CERAMIC	220PF	10%	50V
C173	1-162-306-11	CERAMIC	0.01uF	20%	16V
C191	1-126-963-11	ELECT	4.7uF	20%	50V
C192	1-164-159-21	CERAMIC	0.1uF		50V
C201	1-136-167-00	FILM	0.15uF	5%	50V
C202	1-136-167-00	FILM	0.15uF	5%	50V
C203	1-130-493-00	MYLAR	0.068uF	5%	50V
C204	1-130-493-00	MYLAR	0.068uF	5%	50V
C205	1-130-486-00	MYLAR	0.018uF	10%	50V
C206	1-130-486-00	MYLAR	0.018uF	10%	50V
C207	1-130-480-00	MYLAR	0.0056uF	5%	50V
C208	1-130-479-00	MYLAR	0.0047uF	5%	50V
C209	1-130-474-00	MYLAR	0.0018uF	5%	50V
C210	1-126-964-11	ELECT	10uF	20%	50V
C211	1-126-964-11	ELECT	10uF	20%	50V
C212	1-130-483-00	MYLAR	0.01uF	5%	50V
C213	1-136-169-00	FILM	0.22uF	5%	50V
C214	1-136-169-00	FILM	0.22uF	5%	50V
C215	1-162-294-31	CERAMIC	0.001uF	10%	50V
C216	1-136-167-00	FILM	0.15uF	5%	50V
C221	1-126-967-11	ELECT	47uF	20%	10V
C222	1-126-967-11	ELECT	47uF	20%	10V
C223	1-126-964-11	ELECT	10uF	20%	50V
C224	1-162-290-31	CERAMIC	470PF	10%	50V
C226	1-126-964-11	ELECT	10uF	20%	50V
C231	1-109-889-11	ELECT	1uF	20%	50V
C251	1-136-167-00	FILM	0.15uF	5%	50V
C252	1-136-167-00	FILM	0.15uF	5%	50V
C253	1-130-493-00	MYLAR	0.068uF	5%	50V
C254	1-130-493-00	MYLAR	0.068uF	5%	50V
C255	1-130-486-00	MYLAR	0.018uF	10%	50V
C256	1-130-486-00	MYLAR	0.018uF	10%	50V
C257	1-130-480-00	MYLAR	0.0056uF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C258	1-130-479-00	MYLAR	0.0047uF	5%	50V
C259	1-130-474-00	MYLAR	0.0018uF	5%	50V
C260	1-126-964-11	ELECT	10uF	20%	50V
C261	1-126-964-11	ELECT	10uF	20%	50V
C262	1-130-483-00	MYLAR	0.01uF	5%	50V
C263	1-136-169-00	FILM	0.22uF	5%	50V
C264	1-136-169-00	FILM	0.22uF	5%	50V
C276	1-126-964-11	ELECT	10uF	20%	50V
C281	1-104-665-11	ELECT	100uF	20%	10V
C282	1-126-961-11	ELECT	2.2uF	20%	50V
C283	1-104-665-11	ELECT	100uF	20%	10V
C284	1-126-934-11	ELECT	220uF	20%	10V
C291	1-126-959-11	ELECT	0.47uF	20%	50V
C301	1-126-967-11	ELECT	47uF	20%	10V
C302	1-164-159-21	CERAMIC	0.1uF		50V
C303	1-136-173-00	FILM	0.47uF	5%	50V
C304	1-126-926-11	ELECT	1000uF	20%	10V
C305	1-162-306-11	CERAMIC	0.01uF	20%	16V
C309	1-102-514-11	CERAMIC	22PF	5%	50V
C310	1-102-514-11	CERAMIC	22PF	5%	50V
C311	1-164-159-21	CERAMIC	0.1uF		50V
C315	1-104-665-11	ELECT	100uF	20%	10V
C316	1-136-165-00	FILM	0.1uF	5%	50V
C390	1-104-665-11	ELECT	100uF	20%	10V
C391	1-162-306-11	CERAMIC	0.01uF	20%	16V
C392	1-104-665-11	ELECT	100uF	20%	10V
C393	1-126-925-11	ELECT	470uF	20%	10V
C394	1-164-159-21	CERAMIC	0.1uF		50V
C396	1-126-961-11	ELECT	2.2uF	20%	50V
C398	1-126-961-11	ELECT	2.2uF	20%	50V
C903	1-136-165-00	FILM	0.1uF	5%	50V
C904	1-126-937-11	ELECT	4700uF	20%	16V
C906	1-104-665-11	ELECT	100uF	20%	10V
C909	1-126-964-11	ELECT	10uF	20%	50V
C910	1-104-665-11	ELECT	100uF	20%	10V
C911	1-126-964-11	ELECT	10uF	20%	50V
C912	1-126-916-11	ELECT	1000uF	20%	6.3V
C913	1-126-943-11	ELECT	2200uF	20%	25V
C914	1-126-767-11	ELECT	1000uF	20%	16V
C915	1-126-967-11	ELECT	47uF	20%	16V
C916	1-164-159-21	CERAMIC	0.1uF		50V
C917	1-126-968-11	ELECT	100uF	20%	50V
C918	1-126-968-11	ELECT	100uF	20%	50V
C919	1-126-964-11	ELECT	10uF	20%	50V
C920	1-126-947-11	ELECT	47uF	20%	35V
C953	1-136-165-00	FILM	0.1uF	5%	50V
C954	1-126-768-11	ELECT	2200uF	20%	16V
C956	1-104-665-11	ELECT	100uF	20%	10V
C1501	1-130-479-00	MYLAR	0.0047uF	5%	50V
C1502	1-162-290-31	CERAMIC	470PF	10%	50V
C1503	1-164-159-21	CERAMIC	0.1uF		50V
C1504	1-126-960-11	ELECT	1uF	20%	50V
C1505	1-126-964-11	ELECT	10uF	20%	50V
C1506	1-126-964-11	ELECT	10uF	20%	50V
C1507	1-126-960-11	ELECT	1uF	20%	50V
C1508	1-104-665-11	ELECT	100uF	20%	10V
C1523	1-126-933-11	ELECT	100uF	20%	16V
C1531	1-164-159-21	CERAMIC	0.1uF		50V
C1532	1-164-159-21	CERAMIC	0.1uF		50V
C1533	1-164-159-21	CERAMIC	0.1uF		50V
C1534	1-126-935-11	ELECT	470uF	20%	16V
C1551	1-130-479-00	MYLAR	0.0047uF	5%	50V
C1552	1-162-290-31	CERAMIC	470PF	10%	50V
C1553	1-164-159-21	CERAMIC	0.1uF		50V
C1554	1-126-960-11	ELECT	1uF	20%	50V
C1555	1-126-964-11	ELECT	10uF	20%	50V
C1556	1-126-964-11	ELECT	10uF	20%	50V
C1557	1-126-960-11	ELECT	1uF	20%	50V
C1558	1-104-665-11	ELECT	100uF	20%	10V

< CONNECTOR >

Ref. No.	Part No.	Description
CN101	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P
* CN102	1-568-836-11	SOCKET, CONNECTOR 17P
* CN105	1-564-518-11	PLUG, CONNECTOR 3P
* CN201	1-568-832-11	SOCKET, CONNECTOR 13P
CN202	1-568-802-11	SOCKET, CONNECTOR 19P
* CN203	1-568-936-11	PIN, CONNECTOR 9P
CN205	1-568-838-11	SOCKET, CONNECTOR 21P
* CN206	1-568-830-11	SOCKET, CONNECTOR 11P
* CN207	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P

< DIODE >

Ref. No.	Part No.	Description
D141	8-719-991-33	DIODE 1SS133T-77
D142	8-719-991-33	DIODE 1SS133T-77
D191	8-719-991-33	DIODE 1SS133T-77
D192	8-719-991-33	DIODE 1SS133T-77
D291	8-719-991-33	DIODE 1SS133T-77
D301	8-719-200-82	DIODE 11ES2
D302	8-719-200-82	DIODE 11ES2
D303	8-719-991-33	DIODE 1SS133T-77
D304	8-719-991-33	DIODE 1SS133T-77
D305	8-719-991-33	DIODE 1SS133T-77
D306	8-719-991-33	DIODE 1SS133T-77
D307	8-719-991-33	DIODE 1SS133T-77
D309	8-719-991-33	DIODE 1SS133T-77
D902	8-719-200-82	DIODE 11ES2
D903	8-719-200-82	DIODE 11ES2
D904	8-719-200-82	DIODE 11ES2
D905	8-719-200-82	DIODE 11ES2
D906	8-719-200-82	DIODE 11ES2
D907	8-719-200-82	DIODE 11ES2
D908	8-719-200-82	DIODE 11ES2
D909	8-719-200-82	DIODE 11ES2
D910	8-719-982-27	DIODE MTZJ-33C
D911	8-719-109-89	DIODE RD5.6ESB2
D912	8-719-991-33	DIODE 1SS133T-77
D913	8-719-200-82	DIODE 11ES2
D914	8-719-200-82	DIODE 11ES2
D915	8-719-935-69	DIODE UZL-11M1-TA
D951	8-719-991-33	DIODE 1SS133T-77
D952	8-719-991-33	DIODE 1SS133T-77

< FERRITE BEAD >

Ref. No.	Part No.	Description
FB302	1-412-473-21	INDUCTOR 0uH

Ref. No.	Part No.	Description	Remarks
		< IC >	
IC101	8-759-634-50	IC M5218AL	
IC102	8-759-000-48	IC MC14052BCP	
IC201	8-759-460-02	IC M62427FP-A	
IC231	8-759-634-50	IC M5218AL	
IC281	8-759-111-68	IC UPC1237HA	
IC301	8-759-531-31	IC uPD780018YGF-028-3BA	
IC302	8-759-635-63	IC M51943BSL	
IC391	8-749-923-04	IC TOTX178 (CD DIGITAL OUT)	
IC901	8-759-288-53	IC LA5617	
IC902	8-759-604-86	IC M5F7807L	
IC903	8-759-231-53	IC TA7805S	
IC904	8-759-231-58	IC TA7812S	
IC1501	8-759-363-21	IC HA12203NT	
IC1502	8-759-822-09	IC LB1641	
		< JACK >	
J101	1-784-275-11	JACK, PIN 6P (PHONO, VIDEO/MD (AUDIO))	
		< COIL >	
L301	1-410-509-11	INDUCTOR 10uH	
L393	1-410-515-11	INDUCTOR 33uH	
		< TRANSISTOR >	
Q101	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q102	8-729-029-40	TRANSISTOR DTA124ESA	
Q103	8-729-029-86	TRANSISTOR DTC124ESA	
Q141	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q142	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q151	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q191	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q192	8-729-111-29	TRANSISTOR 2SD1616A-K	
Q201	8-729-029-86	TRANSISTOR DTC124ESA	
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q203	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q204	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q231	8-729-029-40	TRANSISTOR DTA124ESA	
Q232	8-729-029-40	TRANSISTOR DTA124ESA	
Q251	8-729-029-86	TRANSISTOR DTC124ESA	
Q252	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q253	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q254	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q281	8-729-029-86	TRANSISTOR DTC124ESA	
Q282	8-729-029-40	TRANSISTOR DTA124ESA	
Q283	8-729-029-86	TRANSISTOR DTC124ESA	
Q301	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q901	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q902	8-729-029-86	TRANSISTOR DTC124ESA	
Q903	8-729-026-68	TRANSISTOR 2SD2525(TP)	
Q904	8-729-030-19	TRANSISTOR 2SB1640	
Q905	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q906	8-729-029-40	TRANSISTOR DTA124ESA	
Q907	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q1531	8-729-801-93	TRANSISTOR 2SD1387	
Q1532	8-729-029-66	TRANSISTOR DTC114ESA	
Q1533	8-729-029-66	TRANSISTOR DTC114ESA	
Q1534	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q1535	8-729-029-66	TRANSISTOR DTC114ESA	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R102	1-249-417-11	CARBON	1K	5%	1/4W
R103	1-249-437-11	CARBON	47K	5%	1/4W
R104	1-249-417-11	CARBON	1K	5%	1/4W
R105	1-247-897-11	CARBON	560K	5%	1/4W
R106	1-249-437-11	CARBON	47K	5%	1/4W
R107	1-249-417-11	CARBON	1K	5%	1/4W
R108	1-249-441-11	CARBON	100K	5%	1/4W
R121	1-249-424-11	CARBON	3.9K	5%	1/4W
R122	1-247-887-00	CARBON	220K	5%	1/4W
R123	1-249-426-11	CARBON	5.6K	5%	1/4W
R124	1-249-429-11	CARBON	10K	5%	1/4W
R125	1-249-441-11	CARBON	100K	5%	1/4W
R126	1-249-417-11	CARBON	1K	5%	1/4W
R127	1-249-441-11	CARBON	100K	5%	1/4W
R133	1-260-091-11	CARBON	220	5%	1/2W
R134	1-260-091-11	CARBON	220	5%	1/2W
R140	1-249-429-11	CARBON	10K	5%	1/4W
R141	1-249-437-11	CARBON	47K	5%	1/4W
R142	1-249-429-11	CARBON	10K	5%	1/4W
⚠R147	1-216-456-00	METAL OXIDE	820	5%	2W F
⚠R148	1-216-456-00	METAL OXIDE	820	5%	2W F
R152	1-249-417-11	CARBON	1K	5%	1/4W
R153	1-249-437-11	CARBON	47K	5%	1/4W
R154	1-249-417-11	CARBON	1K	5%	1/4W
R155	1-247-897-11	CARBON	560K	5%	1/4W
R156	1-249-437-11	CARBON	47K	5%	1/4W
R157	1-249-417-11	CARBON	1K	5%	1/4W
R158	1-249-441-11	CARBON	100K	5%	1/4W
R171	1-249-424-11	CARBON	3.9K	5%	1/4W
R172	1-247-887-00	CARBON	220K	5%	1/4W
R173	1-249-426-11	CARBON	5.6K	5%	1/4W
R174	1-249-429-11	CARBON	10K	5%	1/4W
R176	1-249-417-11	CARBON	1K	5%	1/4W
R177	1-249-441-11	CARBON	100K	5%	1/4W
R183	1-260-091-11	CARBON	220	5%	1/2W
R184	1-260-091-11	CARBON	220	5%	1/2W
R191	1-249-425-11	CARBON	4.7K	5%	1/4W
R192	1-249-441-11	CARBON	100K	5%	1/4W
R193	1-249-421-11	CARBON	2.2K	5%	1/4W
R194	1-249-437-11	CARBON	47K	5%	1/4W
R195	1-249-437-11	CARBON	47K	5%	1/4W
R201	1-249-429-11	CARBON	10K	5%	1/4W
R202	1-247-863-91	CARBON	22K	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W
R205	1-247-863-91	CARBON	22K	5%	1/4W
R206	1-249-421-11	CARBON	2.2K	5%	1/4W
R207	1-249-431-11	CARBON	15K	5%	1/4W
R209	1-249-441-11	CARBON	100K	5%	1/4W
R210	1-247-896-11	CARBON	510K	5%	1/4W
R211	1-247-891-00	CARBON	330K	5%	1/4W
R212	1-247-826-00	CARBON	620	5%	1/4W
R213	1-249-429-11	CARBON	10K	5%	1/4W
R214	1-249-437-11	CARBON	47K	5%	1/4W
R215	1-247-903-00	CARBON	1M	5%	1/4W
R216	1-249-429-11	CARBON	10K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN

Ref. No.	Part No.	Description			Remarks
R217	1-249-437-11	CARBON	47K	5%	1/4W
R221	1-249-425-11	CARBON	4.7K	5%	1/4W
R222	1-249-425-11	CARBON	4.7K	5%	1/4W
R226	1-249-421-11	CARBON	2.2K	5%	1/4W
R227	1-249-441-11	CARBON	100K	5%	1/4W
R228	1-249-429-11	CARBON	10K	5%	1/4W
R231	1-249-437-11	CARBON	47K	5%	1/4W
R232	1-249-437-11	CARBON	47K	5%	1/4W
R234	1-247-886-11	CARBON	200K	5%	1/4W
R235	1-249-421-11	CARBON	2.2K	5%	1/4W
R236	1-249-441-11	CARBON	100K	5%	1/4W
R238	1-249-438-11	CARBON	56K	5%	1/4W
R239	1-249-437-11	CARBON	47K	5%	1/4W
R253	1-249-441-11	CARBON	100K	5%	1/4W
R257	1-249-431-11	CARBON	15K	5%	1/4W
R259	1-249-441-11	CARBON	100K	5%	1/4W
R260	1-247-896-11	CARBON	510K	5%	1/4W
R261	1-247-891-00	CARBON	330K	5%	1/4W
R262	1-247-826-00	CARBON	620	5%	1/4W
R263	1-249-429-11	CARBON	10K	5%	1/4W
R264	1-249-437-11	CARBON	47K	5%	1/4W
R265	1-247-903-00	CARBON	1M	5%	1/4W
R266	1-249-429-11	CARBON	10K	5%	1/4W
R267	1-249-437-11	CARBON	47K	5%	1/4W
R271	1-249-425-11	CARBON	4.7K	5%	1/4W
R272	1-249-425-11	CARBON	4.7K	5%	1/4W
R276	1-249-421-11	CARBON	2.2K	5%	1/4W
R277	1-249-441-11	CARBON	100K	5%	1/4W
R278	1-249-429-11	CARBON	10K	5%	1/4W
R281	1-249-426-11	CARBON	5.6K	5%	1/4W
R282	1-249-426-11	CARBON	5.6K	5%	1/4W
R283	1-249-435-11	CARBON	33K	5%	1/4W
R284	1-247-791-91	CARBON	22	5%	1/4W
R285	1-249-441-11	CARBON	100K	5%	1/4W
R286	1-249-429-11	CARBON	10K	5%	1/4W
R287	1-249-425-11	CARBON	4.7K	5%	1/4W
R288	1-249-439-11	CARBON	68K	5%	1/4W
R289	1-249-440-11	CARBON	82K	5%	1/4W
R291	1-247-863-91	CARBON	22K	5%	1/4W
R292	1-247-863-91	CARBON	22K	5%	1/4W
R293	1-249-421-11	CARBON	2.2K	5%	1/4W
R294	1-249-441-11	CARBON	100K	5%	1/4W
R295	1-247-903-00	CARBON	1M	5%	1/4W
R301	1-249-413-11	CARBON	470	5%	1/4W
R302	1-249-425-11	CARBON	4.7K	5%	1/4W
R303	1-249-437-11	CARBON	47K	5%	1/4W
R304	1-249-437-11	CARBON	47K	5%	1/4W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-247-807-31	CARBON	100	5%	1/4W
R316	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-249-429-11	CARBON	10K	5%	1/4W
R320	1-249-429-11	CARBON	10K	5%	1/4W
R322	1-249-425-11	CARBON	4.7K	5%	1/4W
R323	1-247-807-31	CARBON	100	5%	1/4W
R324	1-247-891-00	CARBON	330K	5%	1/4W
R325	1-249-431-11	CARBON	15K	5%	1/4W
R326	1-249-415-11	CARBON	680	5%	1/4W
R327	1-247-807-31	CARBON	100	5%	1/4W
R328	1-247-807-31	CARBON	100	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R330	1-247-807-31	CARBON	100	5%	1/4W
R331	1-247-807-31	CARBON	100	5%	1/4W
R332	1-247-807-31	CARBON	100	5%	1/4W
R333	1-247-807-31	CARBON	100	5%	1/4W
R339	1-247-807-31	CARBON	100	5%	1/4W
R340	1-247-807-31	CARBON	100	5%	1/4W
R341	1-247-807-31	CARBON	100	5%	1/4W
R342	1-247-807-31	CARBON	100	5%	1/4W
R344	1-247-807-31	CARBON	100	5%	1/4W
R345	1-247-807-31	CARBON	100	5%	1/4W
R346	1-247-807-31	CARBON	100	5%	1/4W
R349	1-247-807-31	CARBON	100	5%	1/4W
R350	1-247-807-31	CARBON	100	5%	1/4W
R351	1-247-807-31	CARBON	100	5%	1/4W
R352	1-247-807-31	CARBON	100	5%	1/4W
R353	1-247-807-31	CARBON	100	5%	1/4W
R354	1-247-807-31	CARBON	100	5%	1/4W
R355	1-247-807-31	CARBON	100	5%	1/4W
R356	1-247-807-31	CARBON	100	5%	1/4W
R357	1-247-807-31	CARBON	100	5%	1/4W
R359	1-247-807-31	CARBON	100	5%	1/4W
R360	1-247-807-31	CARBON	100	5%	1/4W
R366	1-247-807-31	CARBON	100	5%	1/4W
R367	1-249-429-11	CARBON	10K	5%	1/4W
R368	1-247-843-11	CARBON	3.3K	5%	1/4W
R369	1-249-429-11	CARBON	10K	5%	1/4W
R384	1-249-429-11	CARBON	10K	5%	1/4W
R395	1-247-807-31	CARBON	100	5%	1/4W
R396	1-249-435-11	CARBON	33K	5%	1/4W
R397	1-247-807-31	CARBON	100	5%	1/4W
R398	1-249-435-11	CARBON	33K	5%	1/4W
R417	1-249-441-11	CARBON	100K	5%	1/4W
R913	1-247-815-91	CARBON	220	5%	1/4W
R914	1-249-417-11	CARBON	1K	5%	1/4W
R915	1-249-425-11	CARBON	4.7K	5%	1/4W
R916	1-247-815-91	CARBON	220	5%	1/4W
R917	1-247-815-91	CARBON	220	5%	1/4W
R918	1-249-425-11	CARBON	4.7K	5%	1/4W
R920	1-249-417-11	CARBON	1K	5%	1/4W
R921	1-247-895-91	CARBON	470K	5%	1/4W
R951	1-249-425-11	CARBON	4.7K	5%	1/4W
R952	1-249-425-11	CARBON	4.7K	5%	1/4W
R1501	1-249-435-11	CARBON	33K	5%	1/4W
R1502	1-249-417-11	CARBON	1K	5%	1/4W
R1503	1-249-426-11	CARBON	5.6K	5%	1/4W
R1504	1-247-840-00	CARBON	2.4K	5%	1/4W
R1505	1-247-863-91	CARBON	22K	5%	1/4W
R1506	1-249-421-11	CARBON	2.2K	5%	1/4W
R1507	1-249-428-11	CARBON	8.2K	5%	1/4W
R1521	1-247-852-11	CARBON	7.5K	5%	1/4W
R1522	1-249-422-11	CARBON	2.7K	5%	1/4W
R1524	1-249-429-11	CARBON	10K	5%	1/4W
R1525	1-249-432-11	CARBON	18K	5%	1/4W
R1526	1-249-429-11	CARBON	10K	5%	1/4W
R1527	1-249-429-11	CARBON	10K	5%	1/4W
R1531	1-247-843-11	CARBON	3.3K	5%	1/4W
R1532	1-249-411-11	CARBON	330	5%	1/4W
R1533	1-249-427-11	CARBON	6.8K	5%	1/4W
R1534	1-249-429-11	CARBON	10K	5%	1/4W
R1535	1-249-425-11	CARBON	4.7K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R1536	1-249-425-11	CARBON	4.7K	5%	1/4W
R1541	1-249-425-11	CARBON	4.7K	5%	1/4W
R1542	1-249-425-11	CARBON	4.7K	5%	1/4W
R1543	1-249-425-11	CARBON	4.7K	5%	1/4W
R1544	1-249-417-11	CARBON	1K	5%	1/4W
R1545	1-249-437-11	CARBON	47K	5%	1/4W
R1546	1-249-437-11	CARBON	47K	5%	1/4W
R1547	1-249-437-11	CARBON	47K	5%	1/4W
R1548	1-249-437-11	CARBON	47K	5%	1/4W
R1551	1-247-863-91	CARBON	22K	5%	1/4W
R1552	1-249-417-11	CARBON	1K	5%	1/4W
R1553	1-249-426-11	CARBON	5.6K	5%	1/4W
R1554	1-247-840-00	CARBON	2.4K	5%	1/4W
R1555	1-247-863-91	CARBON	22K	5%	1/4W
R1556	1-249-421-11	CARBON	2.2K	5%	1/4W
R1557	1-249-428-11	CARBON	8.2K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1501	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV1551	1-238-598-11	RES, ADJ, CARBON 2.2K			
		< RELAY >			
RY141	1-755-141-11	RELAY			
RY142	1-755-141-11	RELAY			
		< TERMINAL >			
TM131	1-537-925-41	TERMINAL BOARD (SPEAKER)			
		< VIBRATOR >			
X301	1-760-489-11	VIBRATOR, CERAMIC (5MHz)			
X302	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
**********					
*	A-4403-858-A	PANEL BOARD, COMPLETE			
		**********			
*	4-949-935-81	CUSHION (FL)			
*	4-986-870-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C601	1-126-967-11	ELECT	47uF	20%	50V
C602	1-162-306-11	CERAMIC	0.01uF	20%	16V
C603	1-126-963-11	ELECT	4.7uF	20%	50V
C604	1-126-960-11	ELECT	1uF	20%	50V
C606	1-126-960-11	ELECT	1uF	20%	50V
C608	1-126-382-11	ELECT	100uF	20%	6.3V
C610	1-162-306-11	CERAMIC	0.01uF	20%	16V
C611	1-162-306-11	CERAMIC	0.01uF	20%	16V
C612	1-126-967-11	ELECT	47uF	20%	50V
C613	1-164-159-21	CERAMIC	0.1uF		50V
C621	1-126-960-11	ELECT	1uF	20%	50V
C622	1-136-161-00	FILM	0.047uF	5%	50V
C623	1-126-957-11	ELECT	0.22uF	20%	50V
C624	1-126-957-11	ELECT	0.22uF	20%	50V
C625	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C626	1-126-957-11	ELECT	0.22uF	20%	50V
C627	1-136-159-00	FILM	0.033uF	5%	50V
C628	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C629	1-126-957-11	ELECT	0.22uF	20%	50V
C630	1-162-293-31	CERAMIC	820PF	10%	50V
C631	1-126-957-11	ELECT	0.22uF	20%	50V
C632	1-126-957-11	ELECT	0.22uF	20%	50V
C641	1-162-286-21	CERAMIC	220PF	10%	50V
C642	1-162-286-21	CERAMIC	220PF	10%	50V
C643	1-162-286-21	CERAMIC	220PF	10%	50V
C644	1-162-286-21	CERAMIC	220PF	10%	50V
C645	1-162-286-21	CERAMIC	220PF	10%	50V
C646	1-162-286-21	CERAMIC	220PF	10%	50V
C647	1-162-286-21	CERAMIC	220PF	10%	50V
C648	1-162-286-21	CERAMIC	220PF	10%	50V
C649	1-162-286-21	CERAMIC	220PF	10%	50V
C650	1-162-286-21	CERAMIC	220PF	10%	50V
C651	1-162-286-21	CERAMIC	220PF	10%	50V
C652	1-162-286-21	CERAMIC	220PF	10%	50V
C653	1-162-286-21	CERAMIC	220PF	10%	50V
C654	1-162-286-21	CERAMIC	220PF	10%	50V
C655	1-162-286-21	CERAMIC	220PF	10%	50V
C656	1-162-286-21	CERAMIC	220PF	10%	50V
C695	1-164-159-21	CERAMIC	0.1uF		50V
C696	1-164-159-21	CERAMIC	0.1uF		50V
C697	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN601	1-568-836-11	SOCKET, CONNECTOR 17P			
* CN602	1-568-947-11	PIN, CONNECTOR 9P			
CN603	1-506-486-11	PIN, CONNECTOR 7P			
* CN604	1-568-947-11	PIN, CONNECTOR 9P			
		< DIODE >			
D601	8-719-991-33	DIODE 1SS133T-77			
D602	8-719-991-33	DIODE 1SS133T-77			
D603	8-719-991-33	DIODE 1SS133T-77			
D604	8-719-991-33	DIODE 1SS133T-77			
D605	8-719-991-33	DIODE 1SS133T-77			
D606	8-719-991-33	DIODE 1SS133T-77			
D607	8-719-991-33	DIODE 1SS133T-77			
D611	8-719-057-29	DIODE SML78423C-TP15 (TUNER/BAND)			
D612	8-719-057-29	DIODE SML78423C-TP15 (TUNER/BAND)			
D613	8-719-058-04	DIODE SEL5223S-TP15 (ENTER/NEXT)			
D614	8-719-058-04	DIODE SEL5223S-TP15 (GROOVE)			
D615	8-719-058-04	DIODE SEL5223S-TP15 (SUPER WOOFER)			
D616	8-719-058-04	DIODE SEL5223S-TP15 (EFFECT)			
D617	8-719-058-04	DIODE SEL5223S-TP15 (ENTER)			
D618	8-719-058-04	DIODE SEL5223S-TP15 (FILE 1)			
D619	8-719-058-04	DIODE SEL5223S-TP15 (FILE 2)			
D620	8-719-058-04	DIODE SEL5223S-TP15 (FILE 3)			
D621	8-719-058-04	DIODE SEL5223S-TP15 (FILE 4)			
D622	8-719-058-04	DIODE SEL5223S-TP15 (FILE 5)			
D623	8-719-058-04	DIODE SEL5223S-TP15 (P FILE)			
D624	8-719-058-04	DIODE SEL5223S-TP15 (OTHERS)			
D625	8-719-058-04	DIODE SEL5223S-TP15 (MUSIC)			

PANEL

Ref. No.	Part No.	Description	Remarks
		< FERRITE BEAD >	
FB601	1-412-473-21	INDUCTOR 0uH	
		< FLUORESCENT INDICATOR TUBE >	
FL601	1-517-617-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-526-36	IC TMP87CH75F-6659	
IC602	8-759-459-84	IC NJL56H400	
		< COIL >	
L601	1-410-509-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q601	8-729-178-59	TRANSISTOR 2SC2785	
Q602	8-729-118-00	TRANSISTOR 2SB1116-L	
Q603	8-729-118-00	TRANSISTOR 2SB1116-L	
Q604	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q605	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q606	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q607	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q608	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q609	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q610	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q611	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q614	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q615	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q617	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q618	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q619	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q621	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q622	8-729-119-77	TRANSISTOR 2SA1175-FEK	
		< RESISTOR >	
R601	1-249-427-11	CARBON 6.8K 5% 1/4W	
R602	1-249-435-11	CARBON 33K 5% 1/4W	
R603	1-247-903-00	CARBON 1M 5% 1/4W	
R606	1-249-429-11	CARBON 10K 5% 1/4W	
R607	1-249-429-11	CARBON 10K 5% 1/4W	
R608	1-249-429-11	CARBON 10K 5% 1/4W	
R609	1-249-429-11	CARBON 10K 5% 1/4W	
R610	1-249-429-11	CARBON 10K 5% 1/4W	
R611	1-247-843-11	CARBON 3.3K 5% 1/4W	
R612	1-247-843-11	CARBON 3.3K 5% 1/4W	
R613	1-249-401-11	CARBON 47 5% 1/4W	
R614	1-249-429-11	CARBON 10K 5% 1/4W	
R615	1-249-429-11	CARBON 10K 5% 1/4W	
R617	1-249-429-11	CARBON 10K 5% 1/4W	
R621	1-249-421-11	CARBON 2.2K 5% 1/4W	
R622	1-249-437-11	CARBON 47K 5% 1/4W	
R623	1-247-895-91	CARBON 470K 5% 1/4W	
R624	1-249-421-11	CARBON 2.2K 5% 1/4W	
R625	1-249-437-11	CARBON 47K 5% 1/4W	
R626	1-247-895-91	CARBON 470K 5% 1/4W	
R627	1-249-421-11	CARBON 2.2K 5% 1/4W	
R628	1-249-437-11	CARBON 47K 5% 1/4W	
R629	1-247-895-91	CARBON 470K 5% 1/4W	
R631	1-249-437-11	CARBON 47K 5% 1/4W	
R632	1-247-895-91	CARBON 470K 5% 1/4W	

Ref. No.	Part No.	Description	Remarks
R633	1-247-897-11	CARBON 560K 5% 1/4W	
R634	1-247-897-11	CARBON 560K 5% 1/4W	
R635	1-247-897-11	CARBON 560K 5% 1/4W	
R636	1-247-897-11	CARBON 560K 5% 1/4W	
R637	1-247-895-91	CARBON 470K 5% 1/4W	
R638	1-249-435-11	CARBON 33K 5% 1/4W	
R641	1-249-419-11	CARBON 1.5K 5% 1/4W	
R642	1-249-401-11	CARBON 47 5% 1/4W	
R643	1-249-403-11	CARBON 68 5% 1/4W	
R644	1-247-807-31	CARBON 100 5% 1/4W	
R645	1-249-407-11	CARBON 150 5% 1/4W	
R646	1-249-407-11	CARBON 150 5% 1/4W	
R647	1-247-815-91	CARBON 220 5% 1/4W	
R648	1-249-411-11	CARBON 330 5% 1/4W	
R649	1-249-413-11	CARBON 470 5% 1/4W	
R650	1-249-415-11	CARBON 680 5% 1/4W	
R651	1-249-417-11	CARBON 1K 5% 1/4W	
R652	1-249-419-11	CARBON 1.5K 5% 1/4W	
R653	1-249-421-11	CARBON 2.2K 5% 1/4W	
R654	1-247-843-11	CARBON 3.3K 5% 1/4W	
R655	1-249-427-11	CARBON 6.8K 5% 1/4W	
R656	1-249-431-11	CARBON 15K 5% 1/4W	
R657	1-249-419-11	CARBON 1.5K 5% 1/4W	
R658	1-249-401-11	CARBON 47 5% 1/4W	
R659	1-249-403-11	CARBON 68 5% 1/4W	
R660	1-247-807-31	CARBON 100 5% 1/4W	
R661	1-249-407-11	CARBON 150 5% 1/4W	
R662	1-249-407-11	CARBON 150 5% 1/4W	
R663	1-249-419-11	CARBON 1.5K 5% 1/4W	
R664	1-249-401-11	CARBON 47 5% 1/4W	
R665	1-249-403-11	CARBON 68 5% 1/4W	
R666	1-247-807-31	CARBON 100 5% 1/4W	
R667	1-249-407-11	CARBON 150 5% 1/4W	
R668	1-249-407-11	CARBON 150 5% 1/4W	
R669	1-249-419-11	CARBON 1.5K 5% 1/4W	
R670	1-249-401-11	CARBON 47 5% 1/4W	
R671	1-249-403-11	CARBON 68 5% 1/4W	
R672	1-247-807-31	CARBON 100 5% 1/4W	
R673	1-249-407-11	CARBON 150 5% 1/4W	
R674	1-249-407-11	CARBON 150 5% 1/4W	
R675	1-247-815-91	CARBON 220 5% 1/4W	
R676	1-249-411-11	CARBON 330 5% 1/4W	
R677	1-249-413-11	CARBON 470 5% 1/4W	
R678	1-249-415-11	CARBON 680 5% 1/4W	
R679	1-249-419-11	CARBON 1.5K 5% 1/4W	
R681	1-249-429-11	CARBON 10K 5% 1/4W	
R682	1-249-421-11	CARBON 2.2K 5% 1/4W	
R683	1-247-887-00	CARBON 220K 5% 1/4W	
R684	1-249-421-11	CARBON 2.2K 5% 1/4W	
R685	1-247-815-91	CARBON 220 5% 1/4W	
R686	1-247-807-31	CARBON 100 5% 1/4W	
R687	1-247-807-31	CARBON 100 5% 1/4W	
R688	1-247-807-31	CARBON 100 5% 1/4W	
R689	1-247-807-31	CARBON 100 5% 1/4W	
R690	1-247-807-31	CARBON 100 5% 1/4W	
R691	1-247-807-31	CARBON 100 5% 1/4W	
R692	1-247-807-31	CARBON 100 5% 1/4W	
R693	1-247-807-31	CARBON 100 5% 1/4W	
R694	1-247-807-31	CARBON 100 5% 1/4W	
R695	1-247-807-31	CARBON 100 5% 1/4W	

Ref. No.	Part No.	Description			Remarks
R696	1-247-807-31	CARBON	100	5%	1/4W
R697	1-247-807-31	CARBON	100	5%	1/4W
R698	1-247-807-31	CARBON	100	5%	1/4W
R699	1-247-807-31	CARBON	100	5%	1/4W
R700	1-247-807-31	CARBON	100	5%	1/4W
		< SWITCH >			
S601	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)			
S602	1-554-303-21	SWITCH, TACTILE (TUNER MEMORY)			
S603	1-554-303-21	SWITCH, TACTILE (TUNING MODE)			
S604	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)			
S605	1-554-303-21	SWITCH, TACTILE (TUNING +)			
S606	1-554-303-21	SWITCH, TACTILE (TUNING -)			
S607	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)			
S609	1-554-303-21	SWITCH, TACTILE (FUNCTION)			
S610	1-554-303-21	SWITCH, TACTILE (GROOVE)			
S611	1-554-303-21	SWITCH, TACTILE (GEQ ▲)			
S612	1-554-303-21	SWITCH, TACTILE (GEQ ◄)			
S613	1-554-303-21	SWITCH, TACTILE (GEQ ►)			
S614	1-554-303-21	SWITCH, TACTILE (GEQ ▼)			
S615	1-554-303-21	SWITCH, TACTILE (SUPER WOOFER)			
S616	1-554-303-21	SWITCH, TACTILE (SUPER W MODE)			
S619	1-554-303-21	SWITCH, TACTILE (GEQ CONTROL)			
S620	1-554-303-21	SWITCH, TACTILE (ENTER)			
S621	1-554-303-21	SWITCH, TACTILE (EFFECT)			
S622	1-554-303-21	SWITCH, TACTILE (WAVE)			
S623	1-554-303-21	SWITCH, TACTILE (KARAOKE PON/MPX)			
S624	1-554-303-21	SWITCH, TACTILE (SURROUND)			
S625	1-554-303-21	SWITCH, TACTILE (P FILE MEMORY)			
S627	1-554-303-21	SWITCH, TACTILE (SPECTRUM ANALYZER)			
S628	1-554-303-21	SWITCH, TACTILE (DISPLAY/DEMO)			
S629	1-554-303-21	SWITCH, TACTILE (I /⏻)			
S630	1-554-303-21	SWITCH, TACTILE (🕘/CLOCK SET)			
S631	1-554-303-21	SWITCH, TACTILE (REC)			
S632	1-554-303-21	SWITCH, TACTILE (DAILY 1)			
S633	1-554-303-21	SWITCH, TACTILE (DAILY 2)			
S634	1-554-303-21	SWITCH, TACTILE (SLEEP)			
S701	1-473-392-11	ENCODER, ROTARY (VOLUME)			
		< VIBRATOR >			
X601	1-579-125-11	VIBRATOR, CERAMIC (8MHz)			
**********					
*	A-4403-848-A	POWER AMP BOARD, COMPLETE (EXCEPT TH)			
		**********			
*	A-4414-461-A	POWER AMP BOARD, COMPLETE (TH)			
		**********			
	7-685-646-79	SCREW +BVTP 3 × 8 TYPE2 N-S			
		< CAPACITOR >			
C801	1-126-963-11	ELECT	4.7uF	20%	50V
C802	1-162-286-21	CERAMIC	220PF	10%	50V
C803	1-162-282-31	CERAMIC	100PF	10%	50V
C804	1-126-967-11	ELECT	47uF	20%	10V
C806	1-126-967-11	ELECT	47uF	20%	50V
C807	1-126-965-11	ELECT	22uF	20%	50V
C809	1-126-965-11	ELECT	22uF	20%	50V
C810	1-164-159-21	CERAMIC	0.1uF		50V
C811	1-130-493-00	MYLAR	0.068uF	5%	50V
C812	1-130-493-00	MYLAR	0.068uF	5%	50V

Ref. No.	Part No.	Description			Remarks
C813	1-162-294-31	CERAMIC	0.001uF	10%	50V
C821	1-126-963-11	ELECT	4.7uF	20%	50V
C822	1-162-286-21	CERAMIC	220PF	10%	50V
C823	1-162-282-31	CERAMIC	100PF	10%	50V
C824	1-126-967-11	ELECT	47uF	20%	10V
C826	1-126-967-11	ELECT	47uF	20%	50V
C827	1-126-965-11	ELECT	22uF	20%	50V
C829	1-126-965-11	ELECT	22uF	20%	50V
C830	1-164-159-21	CERAMIC	0.1uF		50V
C831	1-130-493-00	MYLAR	0.068uF	5%	50V
C832	1-130-493-00	MYLAR	0.068uF	5%	50V
C833	1-162-294-31	CERAMIC	0.001uF	10%	50V
C841	1-136-165-00	FILM	0.1uF	5%	50V
C842	1-126-307-11	ELECT	6800uF	20%	50V
C843	1-126-925-11	ELECT	470uF	20%	10V
C851	1-126-963-11	ELECT	4.7uF	20%	50V
C852	1-162-286-21	CERAMIC	220PF	10%	50V
C853	1-162-282-31	CERAMIC	100PF	10%	50V
C854	1-126-967-11	ELECT	47uF	20%	10V
C856	1-126-967-11	ELECT	47uF	20%	50V
C857	1-126-965-11	ELECT	22uF	20%	50V
C858	1-126-963-11	ELECT	4.7uF	20%	50V
C861	1-130-493-00	MYLAR	0.068uF	5%	50V
C862	1-130-493-00	MYLAR	0.068uF	5%	50V
C871	1-126-963-11	ELECT	4.7uF	20%	50V
C872	1-162-286-21	CERAMIC	220PF	10%	50V
C873	1-162-282-31	CERAMIC	100PF	10%	50V
C874	1-126-967-11	ELECT	47uF	20%	10V
C876	1-126-967-11	ELECT	47uF	20%	50V
C877	1-126-965-11	ELECT	22uF	20%	50V
C878	1-126-963-11	ELECT	4.7uF	20%	50V
C881	1-130-493-00	MYLAR	0.068uF	5%	50V
C882	1-130-493-00	MYLAR	0.068uF	5%	50V
C891	1-136-165-00	FILM	0.1uF	5%	50V
C892	1-126-307-11	ELECT	6800uF	20%	50V
C893	1-126-925-11	ELECT	470uF	20%	10V
		< CONNECTOR >			
CN801	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P			
		< DIODE >			
D800	8-719-060-53	DIODE RBV-2506			
D801	8-719-991-33	DIODE 1SS133T-77			
D811	8-719-991-33	DIODE 1SS133T-77			
D821	8-719-991-33	DIODE 1SS133T-77			
D831	8-719-991-33	DIODE 1SS133T-77			
D841	8-719-991-33	DIODE 1SS133T-77			
D842	8-719-991-33	DIODE 1SS133T-77			
D851	8-719-991-33	DIODE 1SS133T-77			
D871	8-719-991-33	DIODE 1SS133T-77			
D891	8-719-991-33	DIODE 1SS133T-77			
D892	8-719-991-33	DIODE 1SS133T-77			
		< IC >			
IC801	8-749-921-04	IC STK-4211MK-2			
IC821	8-749-921-04	IC STK-4211MK-2			

POWER AMP | TABLE SENSOR | TC-A SW

Ref. No.	Part No.	Description			Remarks
		< TRANSISTOR >			
Q801	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA			
Q821	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA			
Q851	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA			
Q871	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA			
		< RESISTOR >			
R801	1-249-417-11	CARBON	1K	5%	1/4W
R802	1-249-437-11	CARBON	47K	5%	1/4W
R803	1-247-828-11	CARBON	750	5%	1/4W (EXCEPT TH)
R803	1-249-415-11	CARBON	680	5%	1/4W (TH)
R804	1-249-437-11	CARBON	47K	5%	1/4W
R805	1-260-107-11	CARBON	4.7K	5%	1/2W
R806	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R807	1-212-881-11	FUSIBLE	100	5%	1/4W F
R808	1-217-156-00	METAL	0.22	10%	5W
R809	1-260-076-11	CARBON	10	5%	1/2W
R811	1-249-417-11	CARBON	1K	5%	1/4W
R812	1-249-431-11	CARBON	15K	5%	1/4W
R813	1-249-441-11	CARBON	100K	5%	1/4W
R814	1-260-105-11	CARBON	3.3K	5%	1/2W
R816	1-260-105-11	CARBON	3.3K	5%	1/2W
⚠R820	1-202-972-61	FUSIBLE	1	5%	1/4W F
R821	1-249-417-11	CARBON	1K	5%	1/4W
R822	1-249-437-11	CARBON	47K	5%	1/4W
R823	1-247-828-11	CARBON	750	5%	1/4W (EXCEPT TH)
R823	1-249-415-11	CARBON	680	5%	1/4W (TH)
R824	1-249-437-11	CARBON	47K	5%	1/4W
R825	1-260-107-11	CARBON	4.7K	5%	1/2W
R826	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R827	1-212-881-11	FUSIBLE	100	5%	1/4W F
R828	1-217-156-00	METAL	0.22	10%	5W
R829	1-260-076-11	CARBON	10	5%	1/2W
R831	1-249-417-11	CARBON	1K	5%	1/4W
R832	1-249-431-11	CARBON	15K	5%	1/4W
R833	1-249-441-11	CARBON	100K	5%	1/4W
R834	1-260-105-11	CARBON	3.3K	5%	1/2W
R836	1-260-105-11	CARBON	3.3K	5%	1/2W
⚠R840	1-202-972-61	FUSIBLE	1	5%	1/4W F
R841	1-249-421-11	CARBON	2.2K	5%	1/4W
R842	1-249-429-11	CARBON	10K	5%	1/4W
R843	1-247-887-00	CARBON	220K	5%	1/4W
R844	1-249-429-11	CARBON	10K	5%	1/4W
R851	1-249-417-11	CARBON	1K	5%	1/4W
R852	1-249-437-11	CARBON	47K	5%	1/4W
R853	1-247-828-11	CARBON	750	5%	1/4W (EXCEPT TH)
R853	1-249-415-11	CARBON	680	5%	1/4W (TH)
R854	1-249-437-11	CARBON	47K	5%	1/4W
R855	1-260-107-11	CARBON	4.7K	5%	1/2W
R856	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R857	1-212-881-11	FUSIBLE	100	5%	1/4W F
R858	1-217-156-00	METAL	0.22	10%	5W
R859	1-260-076-11	CARBON	10	5%	1/2W
R860	1-249-437-11	CARBON	47K	5%	1/4W
R861	1-249-417-11	CARBON	1K	5%	1/4W
R862	1-249-431-11	CARBON	15K	5%	1/4W
R863	1-249-441-11	CARBON	100K	5%	1/4W
R871	1-249-417-11	CARBON	1K	5%	1/4W
R872	1-249-437-11	CARBON	47K	5%	1/4W
R873	1-247-828-11	CARBON	750	5%	1/4W (EXCEPT TH)
R873	1-249-415-11	CARBON	680	5%	1/4W (TH)
R874	1-249-437-11	CARBON	47K	5%	1/4W
R875	1-260-107-11	CARBON	4.7K	5%	1/2W
R876	1-260-107-11	CARBON	4.7K	5%	1/2W
⚠R877	1-212-881-11	FUSIBLE	100	5%	1/4W F
R878	1-217-156-00	METAL	0.22	10%	5W
R879	1-260-076-11	CARBON	10	5%	1/2W
R881	1-249-417-11	CARBON	1K	5%	1/4W
R882	1-249-431-11	CARBON	15K	5%	1/4W
R883	1-249-441-11	CARBON	100K	5%	1/4W
R884	1-249-437-11	CARBON	47K	5%	1/4W
R891	1-249-421-11	CARBON	2.2K	5%	1/4W
R892	1-249-429-11	CARBON	10K	5%	1/4W
R893	1-247-887-00	CARBON	220K	5%	1/4W
R894	1-249-429-11	CARBON	10K	5%	1/4W
**********					
*	1-659-058-13	TABLE SENSOR BOARD			
		**********			
		< IC >			
IC202	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391			
		< RESISTOR >			
R207	1-249-416-11	CARBON	820	5%	1/4W
**********					
*	1-664-012-11	TC-A SW BOARD			
		**********			
		< CONNECTOR >			
CN612	1-506-486-11	PIN, CONNECTOR 7P			
		< DIODE >			
D631	8-719-057-29	DIODE SML78423C-TP15 (▷)			
D632	8-719-057-29	DIODE SML78423C-TP15 (◁)			
		< RESISTOR >			
R705	1-249-401-11	CARBON	47	5%	1/4W
R706	1-249-403-11	CARBON	68	5%	1/4W
R707	1-247-807-31	CARBON	100	5%	1/4W
R708	1-249-407-11	CARBON	150	5%	1/4W
R709	1-249-407-11	CARBON	150	5%	1/4W
R710	1-247-815-91	CARBON	220	5%	1/4W
R711	1-247-807-31	CARBON	100	5%	1/4W
R712	1-247-807-31	CARBON	100	5%	1/4W
R713	1-247-807-31	CARBON	100	5%	1/4W
R714	1-247-807-31	CARBON	100	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remarks
		< SWITCH >			
S641	1-554-303-21	SWITCH, TACTILE (▷)			
S642	1-554-303-21	SWITCH, TACTILE (◁)			
S643	1-554-303-21	SWITCH, TACTILE (■)			
S644	1-554-303-21	SWITCH, TACTILE (◀◀)			
S645	1-554-303-21	SWITCH, TACTILE (▶▶)			
S646	1-554-303-21	SWITCH, TACTILE (DOLBY NR)			
S647	1-554-303-21	SWITCH, TACTILE (DIRECTION)			
**********					
*	1-664-013-11	TC-B SW BOARD			
		**********			
		< DIODE >			
D635	8-719-057-29	DIODE SML78423C-TP15 (◁)			
D636	8-719-057-29	DIODE SML78423C-TP15 (▷)			
D637	8-719-058-17	DIODE LNG401NPYJA (❚❚)			
D638	8-719-057-09	DIODE LNJ801LPDJA (● REC)			
		< RESISTOR >			
R715	1-247-815-91	CARBON	220	5%	1/4W
R716	1-249-411-11	CARBON	330	5%	1/4W
R717	1-249-413-11	CARBON	470	5%	1/4W
R718	1-249-415-11	CARBON	680	5%	1/4W
R719	1-249-417-11	CARBON	1K	5%	1/4W
R720	1-249-419-11	CARBON	1.5K	5%	1/4W
R721	1-249-421-11	CARBON	2.2K	5%	1/4W
R722	1-247-843-11	CARBON	3.3K	5%	1/4W
R723	1-247-807-31	CARBON	100	5%	1/4W
R724	1-247-807-31	CARBON	100	5%	1/4W
R725	1-247-807-31	CARBON	100	5%	1/4W
R726	1-247-807-31	CARBON	100	5%	1/4W
R727	1-247-807-31	CARBON	100	5%	1/4W
R728	1-247-807-31	CARBON	100	5%	1/4W
		< SWITCH >			
S651	1-554-303-21	SWITCH, TACTILE (▷)			
S652	1-554-303-21	SWITCH, TACTILE (◁)			
S653	1-554-303-21	SWITCH, TACTILE (▶▶)			
S654	1-554-303-21	SWITCH, TACTILE (◀◀)			
S655	1-554-303-21	SWITCH, TACTILE (■)			
S656	1-554-303-21	SWITCH, TACTILE (❚❚)			
S657	1-554-303-21	SWITCH, TACTILE (● REC)			
S658	1-554-303-21	SWITCH, TACTILE (H SPEED DUB)			
S659	1-554-303-21	SWITCH, TACTILE (CD SYNC)			
**********					
*	1-668-169-11	TRANS BOARD			
		**********			
		< CONNECTOR >			
* CN901	1-564-522-11	PLUG, CONNECTOR 7P			
* CN902	1-564-518-11	PLUG, CONNECTOR 3P			
CN903	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (E, IA)			
CN903	1-774-108-11	PIN, CONNECTOR (PC BOARD) (EXCEPT E, IA)			
		< FUSE >			
⚠F901	1-532-465-31	FUSE, TIME-LAG (3.15A/250V)			
⚠F902	1-532-505-31	FUSE, TIME-LAG (5A/250V) (EXCEPT TH)			

Ref. No.	Part No.	Description			Remarks
		< FUSE HOLDER >			
FH901	1-533-399-11	HOLDER, FUSE			
FH902	1-533-399-11	HOLDER, FUSE			
FH951	1-533-399-11	HOLDER, FUSE			
FH952	1-533-399-11	HOLDER, FUSE			
		< RESISTOR >			
⚠R901	1-219-119-81	FUSIBLE	0.1	5%	1/4W F
⚠R902	1-219-119-81	FUSIBLE	0.1	5%	1/4W F
⚠R903	1-219-119-81	FUSIBLE	0.1	5%	1/4W F
⚠R904	1-219-119-81	FUSIBLE	0.1	5%	1/4W F
		< SWITCH >			
⚠S901	1-762-753-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR)(EXCEPT TH)			
		< TRANSFORMER >			
⚠T901	1-431-638-11	TRANSFORMER, POWER			
**********					
		MISCELLANEOUS			
		**********			
5	1-233-545-11	ENCAPSULATED COMPONENT (FM/AM TUNER UNIT)			
6	1-769-974-11	WIRE (FLAT TYPE) (13 CORE)			
58	1-773-161-11	WIRE (FLAT TYPE) (21 CORE)			
59	1-769-949-11	WIRE (FLAT TYPE) (11 CORE)			
115	1-773-051-11	WIRE (FLAT TYPE) (17 CORE)			
156	1-777-868-11	WIRE (FLAT TYPE) (19 CORE)			
⚠158	1-569-008-11	ADAPTOR, CONVERSION 2P (XB66: AR)			
⚠159	1-558-943-51	CORD, POWER (XB66: E, MX/XB660)			
⚠159	1-575-651-21	CORD, POWER (XB66: SAF, AR)			
⚠159	1-696-845-11	CORD, POWER (XB66: AUS)			
357	1-452-925-21	MAGNET ASSY			
⚠401	8-820-020-01	OPTICAL PICK-UP KSS-213D/Q-NP			
402	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)			
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK)			
HRPE1011-500-094-11		HEAD, MAGNETIC (REC/PB/ERASE)			
M1	X-3371-223-1	MOTOR ASSY, CAPSTAN			
M2	A-2004-410-A	MOTOR ASSY, DC (TRIGGER)			
M100	1-763-072-11	FAN, D.C.			
M101	X-4917-504-1	MOTOR ASSY (SPINDLE)			
M102	X-4917-523-4	MOTOR ASSY (SLED)			
M201	A-4660-977-A	MOTOR ASSY (TABLE)			
⚠T901	1-431-638-11	TRANSFORMER, POWER			
**********					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-646-79	SCREW +BVTP 3 × 8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3 × 6 (S)	
#3	7-685-872-09	SCREW +BVTT 3 × 8 (S)	
#4	7-685-650-79	SCREW +BVTP 3 × 16 TYPE2 IT-3	
#5	7-685-862-09	SCREW +BVTT 2.6 × 6 (S)	
#6	7-685-131-19	SCREW +BTP 2.6 × 4 TYPE2 N-S	
#7	7-685-533-19	SCREW +BTP 2.6 × 6 TYPE2 N-S	
#8	7-621-775-10	SCREW +B 2.6 × 4	
#9	7-685-534-19	SCREW +BTP 2.6 × 8 TYPE2 N-S	
#10	7-623-921-01	RING, RETAINING, CAPSTAN	
#11	7-621-775-00	SCREW +B 2.6 × 3	
#12	7-621-255-15	SCREW +P 2 × 3	
#13	7-685-881-09	SCREW +BVTT 4 × 8 (S)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-115-31	REMOTE COMMANDER (RM-SD70)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-659-41	ANTENNA (FM)	
	3-862-180-11	MANUAL, INSTRUCTION (ENGLISH)	(EXCEPT TH)
	3-862-180-31	MANUAL, INSTRUCTION (FRENCH, SPANISH)	(EXCEPT IA, TH)
	3-862-180-41	MANUAL, INSTRUCTION (CHINESE)	(EXCEPT TH)
	3-862-180-91	MANUAL, INSTRUCTION (ARABIC) (EA)	
	3-862-960-11	MANUAL, INSTRUCTION (ENGLISH) (TH)	
	4-891-151-01	COVER, BATTERY (for RM-SD70)	

98E167024-1
Printed in Singapore ©1998.5
Published by Quality Assurance Dept.
(Shibaura)